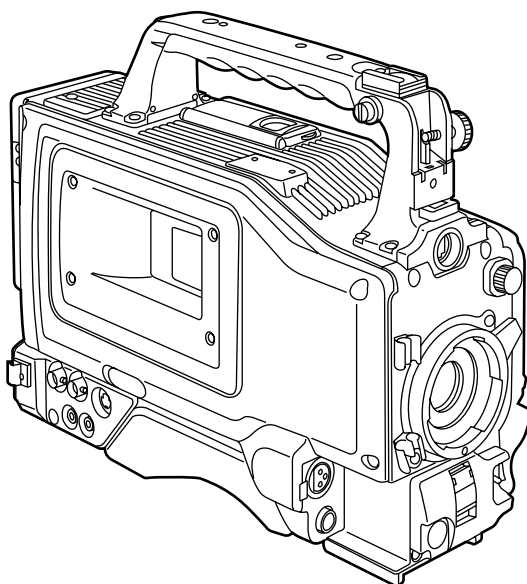


Service Manual

- Sec. 1** *Operating Instructions*
- Sec. 2** *Service Information*
- Sec. 3** *Disassembly Procedure
& Mechanical Adjustments*
- Sec. 4** *Electrical Adjustments*
- Sec. 5** *Block Diagrams*
- Sec. 6** *Schematic Diagrams*
- Sec. 7** *Circuit Board Diagrams*
- Sec. 8** *Exploded Views & Parts List*



Digital Video Camera Recorder
AG-DVC200P



Panasonic®

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Specifications

[VTR UNIT]

Video system

Recording format:	DV format
Sampling frequency	Y: 13.5 MHz PB/PR: 3.375 MHz
Quantizing:	8 bits

Audio system

Recording format:	Digital PCM stereo recording 16 bits (48 kHz/2 channels) 12 bits (32 kHz/2 channels)
Frequency response:	20 Hz to 20 kHz (at 48 kHz)

Tape transport system

Tape format:	DV standard cassettes
Tape speed:	18.812 mm/sec.
Maximum recording time:	270 min.

[CONNECTOR SECTION]

Input

AUDIO IN CH1/CH2 (XLR x 2, 3 pins):	LINE/MIC/MIC+48V switching system MIC: -40, -50, -60 dBu menu-selectable LINE: -6, 0, +4 dBu menu-selectable MIC+48V: Phantom +48V supported
MIC IN (XLR x 2, 3 pins):	MIC/MIC+48V switching system MIC: -40, -50, -60 dBu menu-selectable MIC+48V: Phantom +48V supported (menu-selectable)
GEN LOCK IN (BNC):	1.0 V _{P-P} , 75 Ω

Output

CAMERA OUT (BNC):	1.0 V _{P-P} , 75 Ω
VIDEO OUT (BNC):	1.0 V _{P-P} , 75 Ω
S-VIDEO OUT (S connector)	Y signal: 1.0 V _{P-P} , 75 Ω C signal: 0.286 V _{P-P} , 75 Ω
AUDIO OUT CH1/CH2 (RCA x 2):	-6 dBu, low impedance, unbalanced
PHONE OUT (stereo mini jack):	-30 to -80 dBu

Other

DV 1394 (4 pins):	IEEE1394 input/output
DC IN (XLR, 4 pins, male):	DC 12V (DC 11 to 17V)
DC OUT (4 pins):	DC 12V (DC 11 to 17V), max. 1A (DC 7V, max. 1A output also available)
LENS (multi-connector, 12 pins)	
EVF (multi-connector, 20 pins)	

Specifications

[VIEWFINDER]

(Optional accessory AJ-VF10P)

CRT:	1.5-inch high-resolution monochrome CRT
Video system:	525i/59.94 Hz
External controls	Controls: BRIGHT, CONTRAST, PEAKING Switches: TALLY HIGH/OFF/LOW, ZEBRA ON/ OFF

[ACCESSORIES]

- Battery holder (already installed on unit) for Anton Bauer products
- Microphone
- Tripod plate

[RELATED EQUIPMENT]

Power supply-related products

Battery packs:	AU-BP402, AJ-BP490
Battery chargers:	AJ-B425 (for charging the AU-BP402 battery pack) AJ-B450 (for charging the AU-BP402 and the AU-BP490 battery pack)
Battery case:	AU-M402H
AC adapter:	AJ-B75

Audio products

Microphone kit:	AJ-MC700P
Microphone holder:	AJ-MH700P
Wireless mic receiver:	WX-RJ700
Camera attachment:	WX-ZJ770

Maintenance products

Cleaning tape:	AY-DVCL
Soft carrying case:	AJ-SC900
Rain cover:	SHAN-RC700
Shoulder strap:	VFC2588 (service part)

SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. The resistance value must be more than $5M\Omega$.

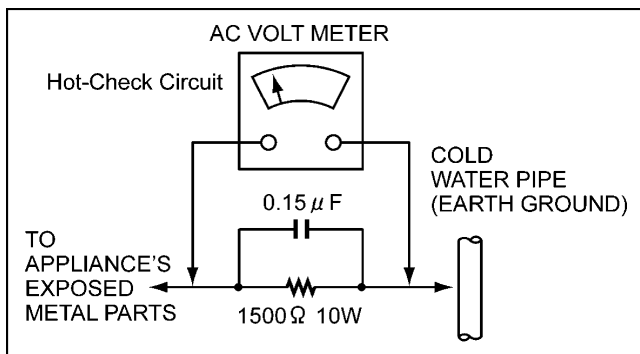


Figure1

LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5k\Omega$, 10W resistor, in parallel with a $0.15\mu F$ capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.15 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 0.1 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist trap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (most replacement ES devices are package with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed. CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

X-RADIATION

WARNING

1. The potential source of X-radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.

Note : It is important to use an accurate periodically calibrated high voltage meter.

3. Measure the High Voltage. The meter (electric type) reading should indicate $2.5kV, \pm 0.15kV$. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER TO SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the appliance.

CAUTION:

Do not install or place this unit in a bookcase, built-in cabinet or in another confined space in order to keep well ventilated condition. Ensure that curtains and any other materials do not obstruct the ventilation condition to prevent risk of electric shock or fire hazard due to overheating.

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

FCC Note:

This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Replace battery with part No. CR2025/1B only.
Use of another battery may present a risk of fire or explosion.
Caution—Battery may explode if mistreated.
Do not recharge, disassemble or dispose of in fire.

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SECTION 3

DISASSEMBLY PROCEDURES MECHANICAL ADJUSTMENTS

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1.Maintenance Parts

1-1. Maintenance Schedule

NO.	Name	Part Number	Using Hours(hrs)		
			1000 2000 4000 5000	3000	6000
1	Tape Path Cleaning	-----	△ Clean the Tape Path at each 500 hours		
2	Cylinder Unit	VEG1561	●	●	◎
3	Pinch Arm Unit	VXL2835	● *1	● *1	◎
4	Cleaning Arm Unit	VXL3027	●	●	◎
5	S Reel(Rotor Unit)	VEM0658		●	◎
6	T Reel(Rotor Unit)	VEM0659		●	◎
7	S Brake Arm Unit	VXL3062		●	◎
8	T Brake Arm Unit	VXL3063		●	◎
9	Thrust Screw Unit	VXQ0556		●	◎
10	Mode SW Unit	VES0918C		●	◎
---	Mech Chassis Unit	VXY1600			●

Note : Hours of Use are based on the head rotation hours.

Hours of Use are recommendation.It may depend on temperature,humidity or dusty.

Hours of Use are listed as the reference of maintenance.They do not mean guarantee hours.

Symbol	Maintenance	Remark
●	Replacement	
◎	Replacement	These parts included in Mech Chassis Unit
*	Greasing	Wipe the old grease and apply new grease
△	Greasing	This mark means cleaning is necessary

2.ALIGNMENT TAPE

2-1. VFM3010EDL (NTSC) (DV adjustment tape)

TIME (min.)	VIDEO		PCM AUDIO		CUE	
	Signal	Purpose	Signal	Purpose	Signal	Purpose
0:00	Color bar	EQ adjustment	1,102.5KHz		-----	-----

2-2. VFM3000EDL (DV (LISTA) adjustment tape)

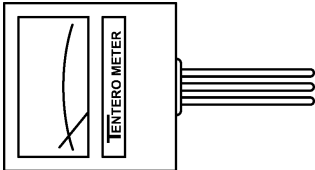
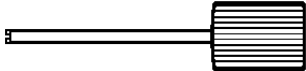
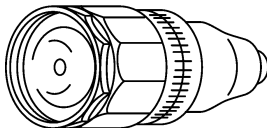
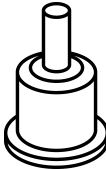
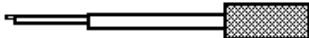
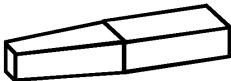
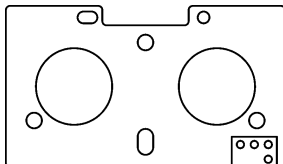
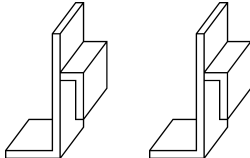
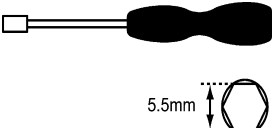
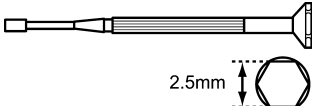
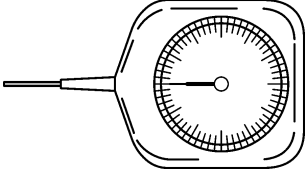

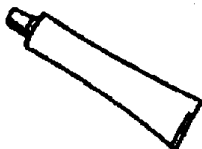

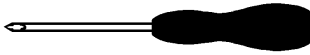

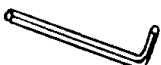
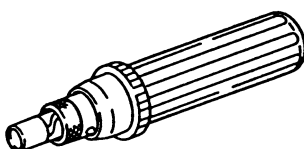
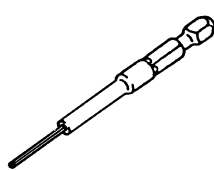
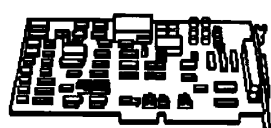
TIME (min.)	VIDEO		PCM AUDIO		CUE	
	Signal	Purpose	Signal	Purpose	Signal	Purpose
0:00	LISTA signal	Adjustment of the linearity	-----	-----	-----	-----

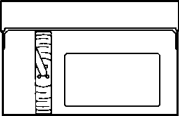
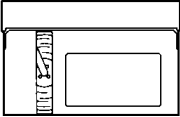
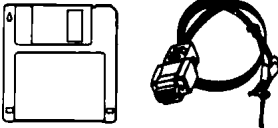
3.RECOMMENDED MEASURING INSTRUMENTS

MODEL NO. (Example)	NAME	REMARK
TSG1910 (NTSC)	NTSC analog composite signal generator (with CF OUT)	Tectronix
1760 (op. SC) or 1780R	SCH meter (NTSC)	
	Waveform monitor (NTSC)	
	Vector scope (NTSC)	
	Oscilloscope	
	Digital voltmeter (D.V.M.)	
	Frequency counter	
	Audio analyzer	

Tool List

Fig	PART No.	JIG & EQUIPMENT	REMARK
1	VFK1145A	Back Tension Meter (T2-M30-P)	
2	VFK1149A	Post Driver	
3	VFK71A	Dial Torque Gauge (1.5cN.m)	150g
4	VFK1191A	Dial Torque Gauge (0.45cN.m)	45g
5	VFK1152	Dial Torque Gauge Adaptor	
6	VFK0357	Eccentric Screwdriver (1.5mm)	
7	VFK1692	Post Height Fixture	
8	VFK1348	Mechanical Neutral Plate (Post Height)	L Cassette
9	VFK1155	Neutral Position Tool (Gold)	
10	VFK1156	Neutral Position Tool (Black)	
11	VFK1208	Neutral Position Tool (Black w/Hole)	
12	VFK1150	Nut Driver (5.5mm)	
13	VFK1151	Nut Driver (2.5mm)	
14	VFK1188A	Dial Tension Gauge (300mN)	30g
15	VFK0948A	Check Light	
16	VFK0749	Froiral Grease (for plastic)	
17	MOR265	Morytone Grease (for metal)	
18	VFK1146	Philips Driver (Fine) (00-75)	
19	VFK1147	Philips Driver (Fine) (0-100)	
20	VFK1148	Hex. Driver (1.5mm)	
21	VFK1178	Hex. Driver (0.89mm)	
22	VFK1179	Hex. Driver (0.71mm)	
23	VFK1190	Hex. Wrench	
24	VFK1209A	Torque Driver (0.4-3Kg)	
25	VFK0912	Post Axis Driver (1.5mm)	
26	VFK1300	A/D Converter DAQ-12 (Quatech)	
27	VFM3010EDL	Alignment Tape (LISTA)	L Cassette
28	VFM3000EDL	Alignment Tape (Color Bar)	L Cassette
29	AJ-CL12LP	Cleaning Tape	SALES
30	VFK1481C	LISTA Software	
31	VFK1186	LISTA Cable	
32	VFK1409S	Measuring Board	
33	VFK1410	Connection Board	

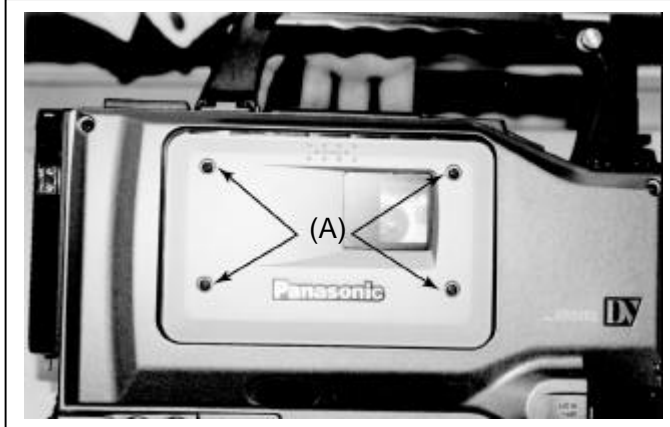
<div>1</div> <div>VFK1145</div> <div>Back Tension Meter</div>  <div>Model : T2-M30-P</div>	<div>2</div> <div>VFK1149</div> <div>Post Driver</div> 	<div>3</div> <div>VFK71(150g)</div> <div>4</div> <div>VFK1191(45g)</div> <div>Dial Torque Gauge</div> 	<div>5</div> <div>VFK1152</div> <div>Dial Torque Gauge Adaptor</div> 
<div>6</div> <div>VFK0357(ø1.5)</div> <div>Eccentric Screwdriver</div> 	<div>7</div> <div>VFK1692</div> <div>Post Height Fixture</div> 	<div>8</div> <div>VFK1153</div> <div>Mechanical Neutral Plate (Post Height)</div> 	<div>9</div> <div>VFK1155(Gold)</div> <div>10</div> <div>VFK1156(Black)</div> <div>11</div> <div>VFK1208(Black w/Hole)</div>  <div>(Gold) (Black)</div>
<div>12</div> <div>VFK1150</div> <div>Nut Driver (5.5mm)</div>  <div>5.5mm</div>	<div>13</div> <div>VFK1151</div> <div>Nut Driver (2.5mm)</div>  <div>2.5mm</div>	<div>14</div> <div>VFK1188(30g)</div> <div>Dial Tension Gauge</div> 	<div>15</div> <div>VFK0948</div> <div>Check Light</div> 
<div>16</div> <div>VFK0749</div> <div>Froiral Grease (for plastic)</div> 	<div>17</div> <div>MOR265</div> <div>Morytone Grease (for metal)</div> 	<div>18</div> <div>VFK1146(00 x 75)</div> <div>19</div> <div>VFK1147(0 x 100)</div> <div>Philips Driver</div> 	<div>20</div> <div>VFK1148(1.5mm)</div> <div>21</div> <div>VFK1178(0.89mm)</div> <div>22</div> <div>VFK1179(0.71mm)</div> <div>Hex. Driver</div> 
<div>23</div> <div>VFK1190(1.5mm)</div> <div>Hex. Wrench</div> 	<div>24</div> <div>VFK1209</div> <div>Torque Driver(0.4-3Kg)</div> 	<div>25</div> <div>VFK1375</div> <div>Post Axis Driver (1.5mm)</div> 	<div>26</div> <div>VFK1300</div> <div>A/D Converter DAQ-12(Quatech)</div> 

27	VFM3010EDL Alignment Tape (Color Bar)	29	AJ-CL12LP Cleaning Tape	30	VFK1481C LISTA Software	32	VFK1409S Measuring Board
28	VFM3000EDL Alignment Tape (LISTA)			31	VFK1186 TA Cable	33	VFK1410 Connection Board
							

4. Disassembly

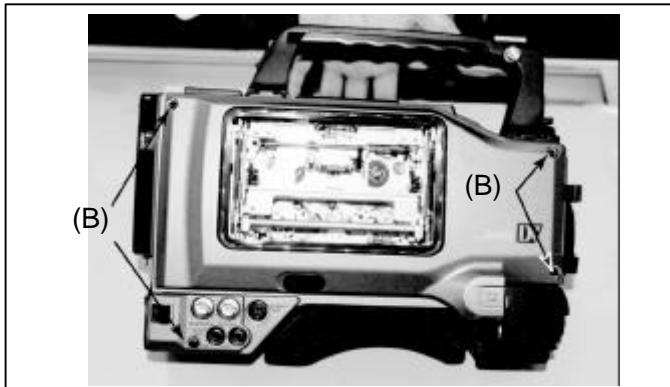
4-1. Removal of Cassette Cover

1. Unscrew the 4 screws (A) and remove the Cassette Cover.



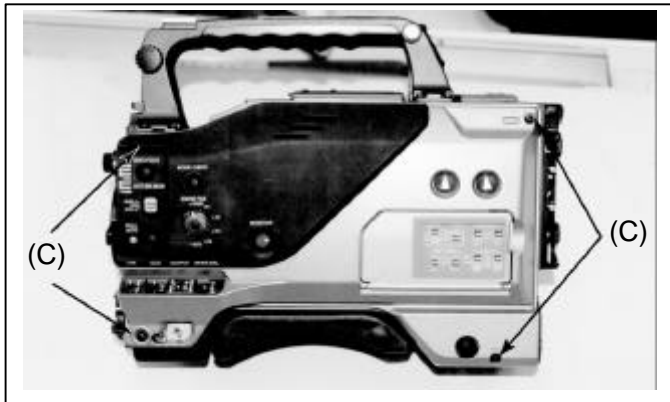
4-2. Removal of Left Side Cover

1. Unscrew the 4 screws (B) and remove the Shoulder Pad.

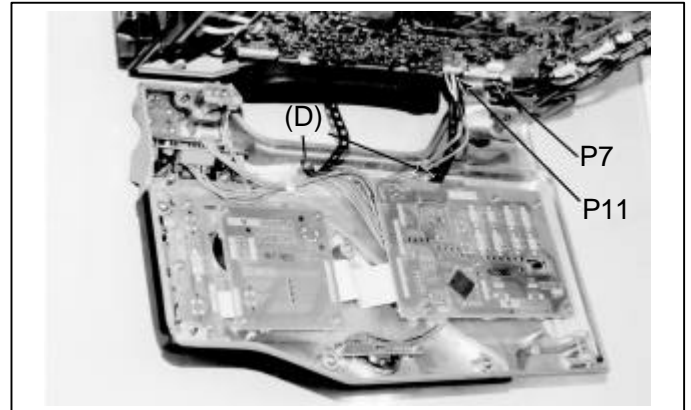


4-3. Removal of Right Side Cover

1. Unscrew the 5 screws (C).
2. Unscrew the screw (D).

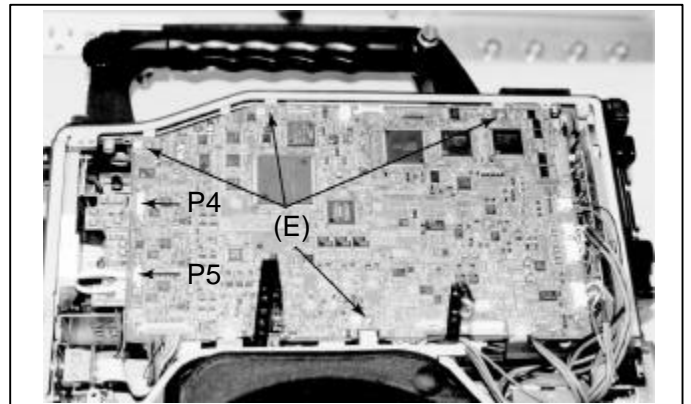


3. Disconnect the connector (P7, P11) and remove Right Side Panel.



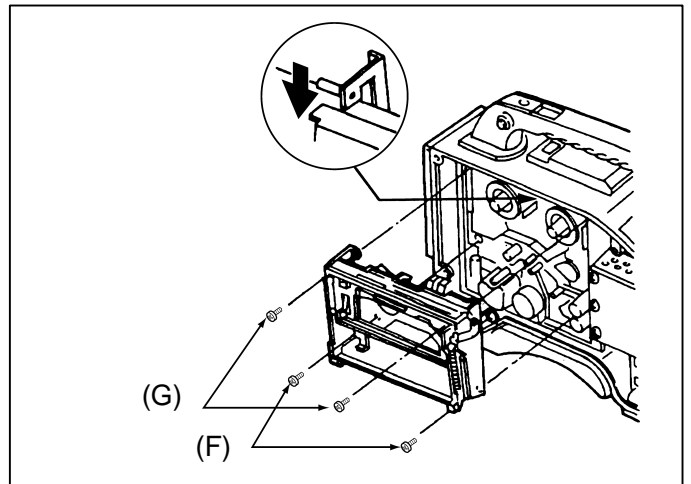
4-4. Removal of VTR MAIN C.B.A.

1. Unscrew the 4 screws (E).
2. Disconnect the connector (P3, P4) and open VTR MAIN C.B.A..



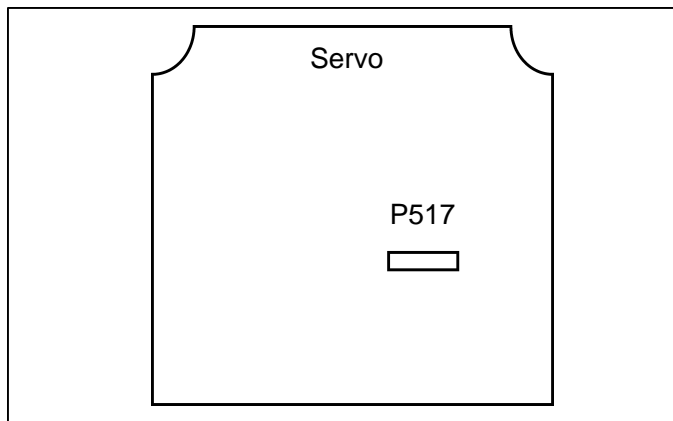
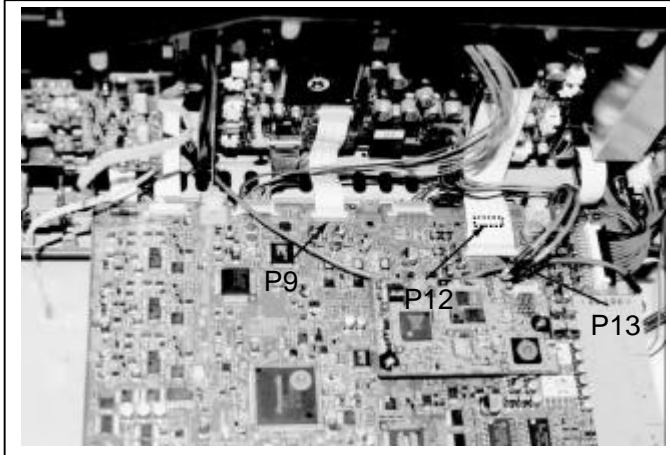
4-5. Removal of Cassette Up Unit

1. Push the Cassette Up Unit lock.
2. Unscrew the 2 screws (F) and 2 screws (G). Remove the Cassette Up Unit.

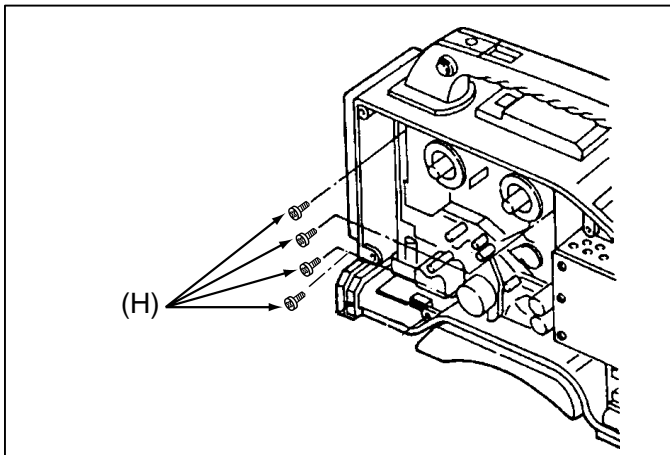


4-6. Removal of Mechanical Unit

1. Disconnect the connector (P9, P12, P13) and connector (P517).

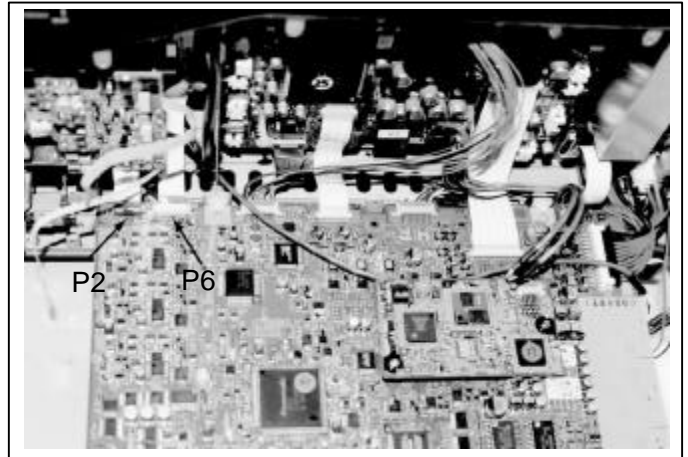


2. Unscrew the 4 screws (H) and remove the Mechanical Unit.

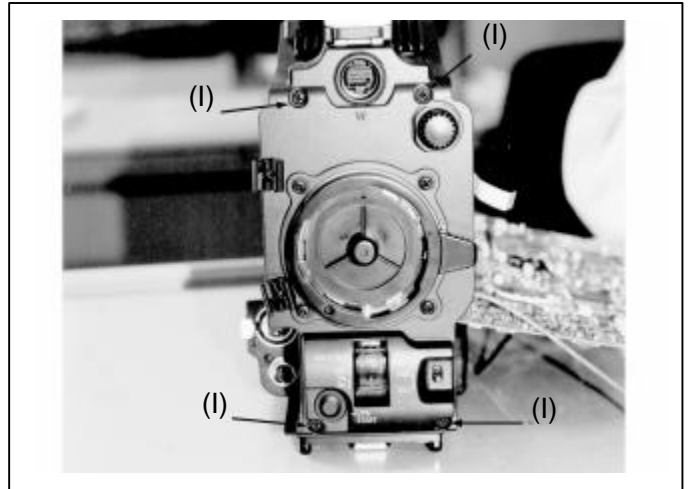


4-7. Removal of Camera Unit

1. Disconnect the connector (P2, P6).



2. Unscrew the 4 screws (I) and remove the Camera Unit.



3. Disconnect the connector (P4) and remove the Camera Unit.

Note : Assemble procedures are reverse of the disassembly procedures.

5. Mechanical Parts Replacement and Adjustment Procedure

General

When mechanical parts are replaced, Pay attention to the following notes.

1. Turn power off before replacing any parts.
2. If any adjustment is required after replacing parts, perform the required adjustments.
3. Use proper fixture and tools.
4. Make sure to clean the parts after replacement.

Also when the mechanical parts are replaced, follow the replacement procedure.

5-1. Drum Unit Replacement

(Removal of Mechanism Unit)

The "Section 3.Disassembly procedures" Item 1 through 7 by following Remove the Mechanism Unit and the RF & Servo C.B.A.

(Removal of Cylinder Unit)

1. Remove the T1 Guide and Cleaning Arm Unit (Refer to item 1-1).
2. Disconnect P1, P513 on the Servo C.B.A. and hold the top of the Drum Unit, then remove 3 screws and carefully pull out the Drum Unit with care not to scratch the flexible cables.

Note : Be careful for removing the flexible cable from the connector. Refer to the way to remove the connector as shown in Figure M1.

Note : Don't touch the cylinder with a finger directly when pulling out the Drum unit.

(Installation)

- 1.Install the new Drum Unit according to the reverse procedures for removal.
- 2.After installing T1 Guide, T1 Guide position adjustment should be performed (Refer to item 12-1).

Note : When installing the Drum Unit, the pin on Mech. Chassis should match hole of Drum Unit as shown in Figure M2.

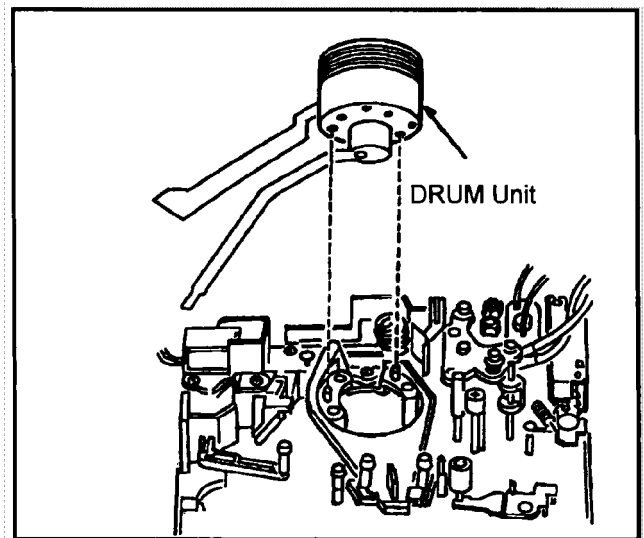


Fig.M2

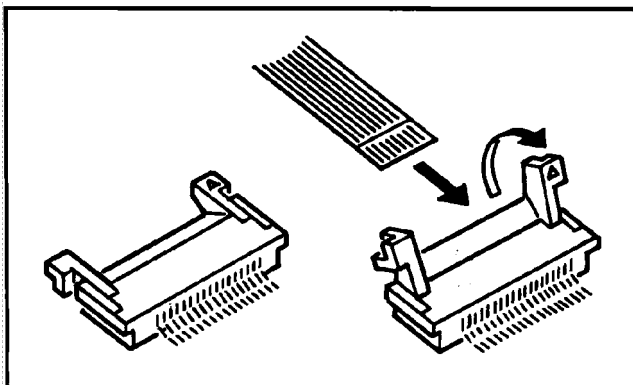


Fig.M1

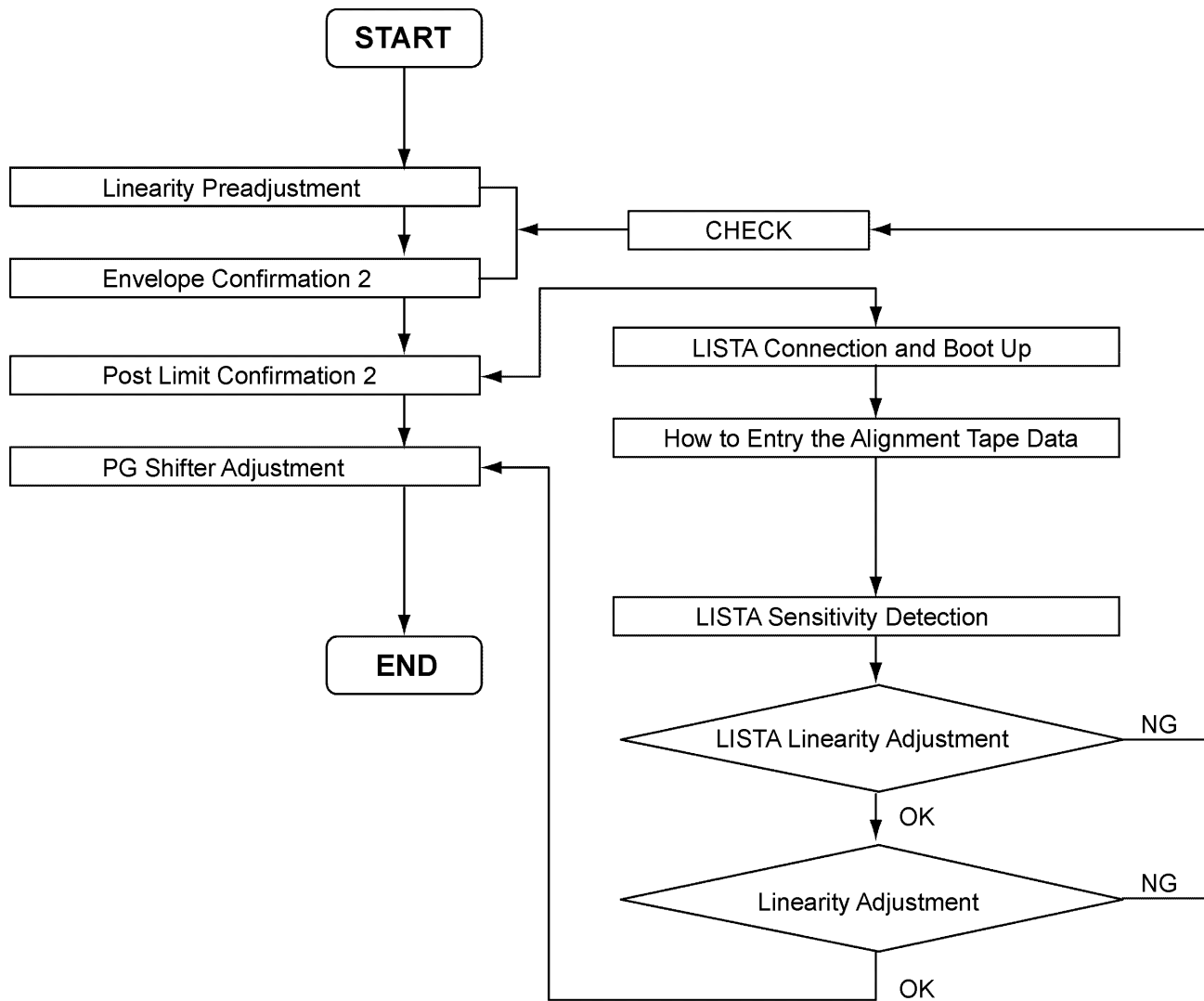
5-1-1. Adjustment Flow Chart After Drum Unit Replacement

1. After changing the Drum Unit, perform the following adjustment steps.

Adjustment Flowchart After Drum Unit & Mech. Chassis Replacement

Note : Confirm the tape path linearity before head replacement.

The number indicated on the chart below is item number on the Service Manual.



5-1-2. Cleaning Arm Unit Replacement

(Removal)

1. Remove the Cassette Cover and Left Side Panel.
2. Unscrew the 2 screws(A) to remove the T1 Guide.
3. Pick up the tip portion(B) of Cleaning Arm Unit and remove the spring from Cleaner Arm Unit. Then remove the Cleaning Arm Unit as shown in Figure M18.

(Installation)

1. Install the cleaning Arm Unit, then hang the spring on Cleaning Arm Unit.
2. Install the T1 Guide and tighten 2 screws(A).
3. Press the iron core of the Cleaner Solenoid and confirm that the Cleaner Roller is rotated when the cylinder is rotated by hand.
4. "12-1. T1 Guide position adjustment" should be performed.

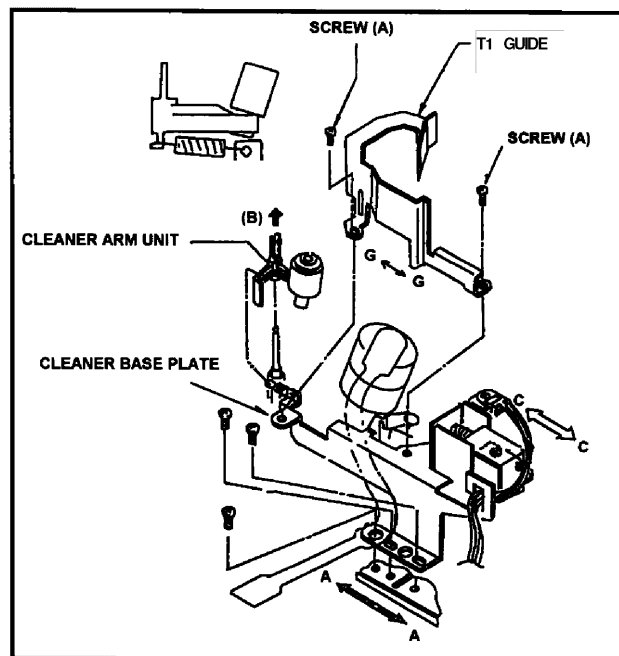


Fig.M18

5-1-3. T1 Guide Position Adjustment

Place the unit in Loading completion position.

<How to Make the No Tape Loading>

- Put a black tube onto TAPE DETECT LED.
- Turn on the power and then the VTR begins loading without tape. After T1 post reached to Loading completion position, unplug DC input to the unit.

1. Observe the clearance (B) between T1 Guide and T1 post as shown in Figure M19. And make sure that it is in between 0.2 and 0.5mm.
2. If not, Loosen the 2 screws(A) and adjust the position of T1 Guide by moving to arrow direction (G↔G) so that the clearance (B) is within the specification. And tighten the 2 screws(A).

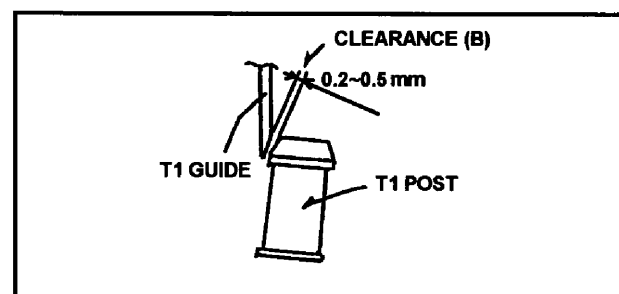


Fig.M19

5-2. Reel Table Replacement

5-2-1. Supply Reel Rotor Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, and Cassette Up Unit, and then open MAIN C.B.A.
2. Disconnect the connector P514 on the RF & Servo C.B.A.
3. Turn the Emergency Gear until S1 Post moved to center loading Position and remove the S5 Post(Refer to item 14).
4. Pull up the Arm Return Spring on the Connection Arm Angle Side and disconnect the Connection Arm Angle.
5. Unscrew the 2 screws (C) to remove the Supply Reel Stopper as shown in Figure M8.
6. Push the Reel Table to middle position and unscrew the 2 screws(D) to remove the Supply Reel Rotor Unit as shown in Figure M8.
7. Remove the 2 Cut Washers to remove the Idler Arm Unit.

5-2-2. Take Up Reel Rotor Unit Replacement

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Disconnect the connector P515 on the RF & Servo C.B.A.
3. Unscrews the 2 screws(E)and then remove the Take Up Reel Stopper.
4. Push the Reel Table to middle position and unscrew the 2 screws (F) to remove the Take Up Reel Rotor Unit as shown in Figure M8.

CAUTION : Don't touch FG portion with the magnetized screw driver.

(Installation for both unit)

1. Install the new Reel Rotor Unit according to the reverse procedures for removal.
2. Adjust the "4.Reel Torque Adj." And confirm "2.Main Brake Torque" in the Section 3.

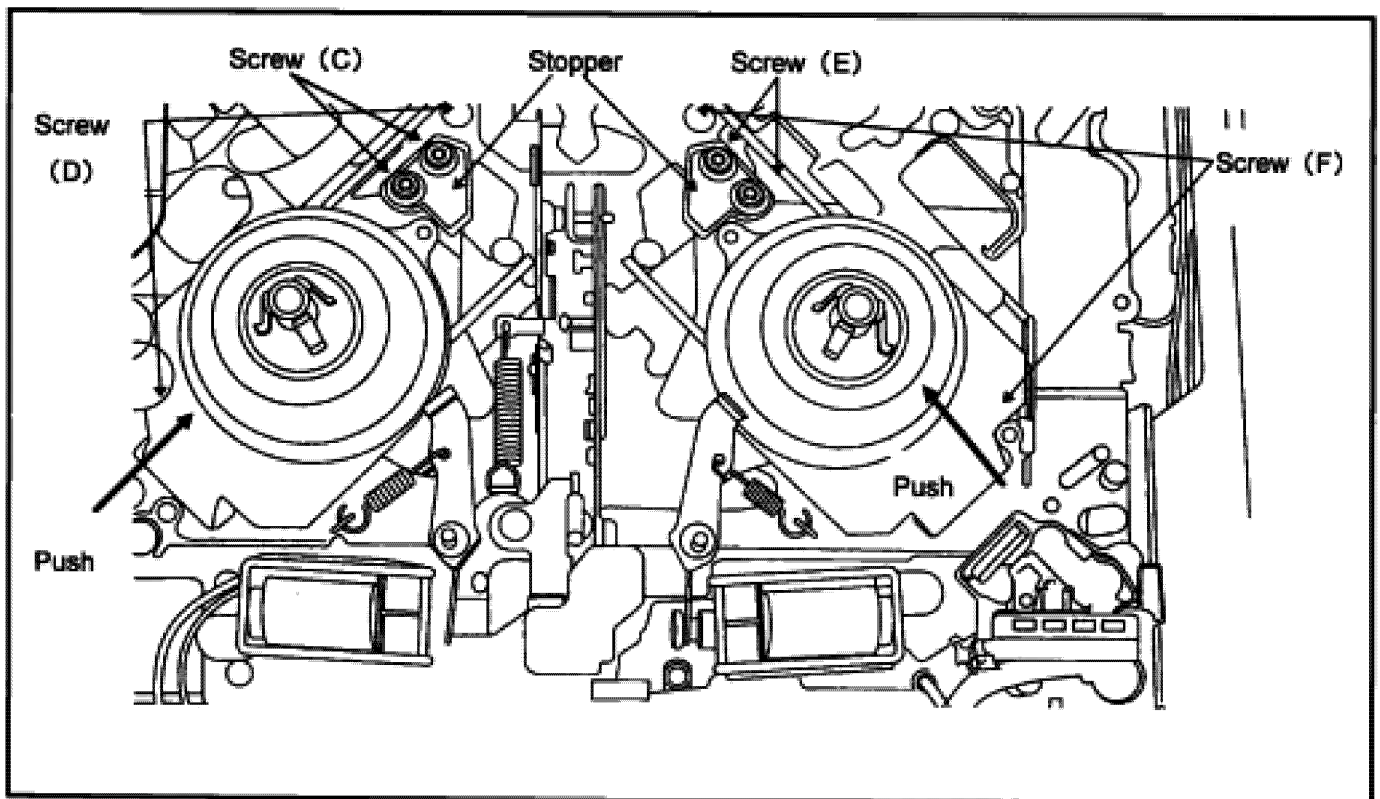


Fig.M8

5-3. Pinch Solenoid Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Disconnect the connector P510 on the RF & Servo C.B.A.
3. Unscrew the 2 screws(A) and remove the Pinch Solenoid Unit as shown in Figure M9.
4. Unscrew the 2 screws(B) and remove the Pinch Solenoid Angle.
5. Unscrew the 2 screws(C) and remove the Pinch Solenoid from the Pinch Solenoid Base.

(Installation)

1. Install the new Pinch Solenoid according to the reverse procedures for removal.
2. After installing, Pinch Solenoid Position Adjustment is required. (Refer to "1. Pinch Solenoid Adj." In the Section 3).

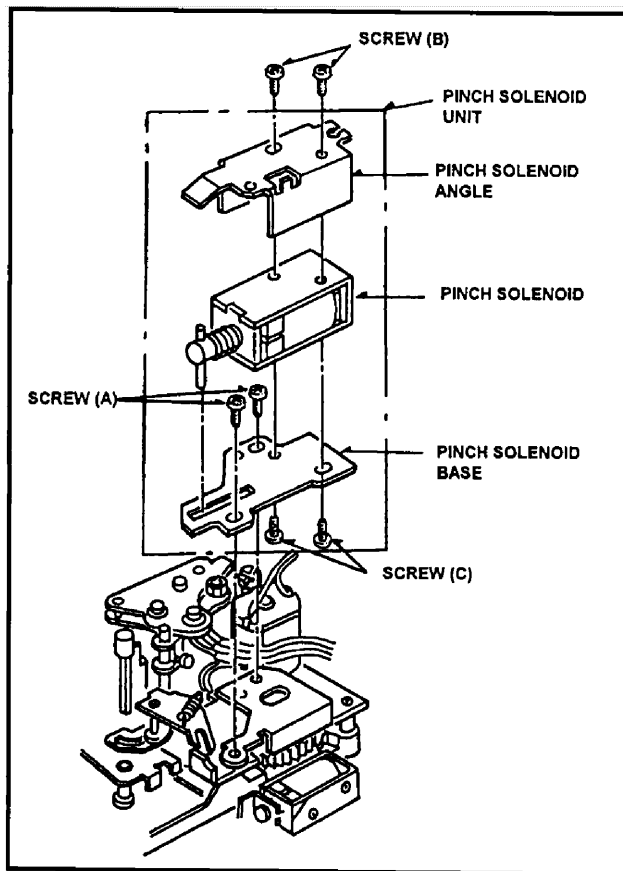


Fig.M9

5-4. Pinch Arm Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Remove the Pinch Solenoid Unit (Refer to item 4).
3. Remove the Cut Washer(A) to remove the Pinch Solenoid Lever as shown in Figure M10.
4. Remove the Cut Washer(B) to remove the Pinch Arm Unit as shown in Figure M10.

(Installation)

1. Install the new Pinch Arm Unit according to the reverse procedures for removal.
2. After installing, Pinch Solenoid Position Adjustment is required. (Refer to "1.Pinch Solenoid Adj." In the Section 3).

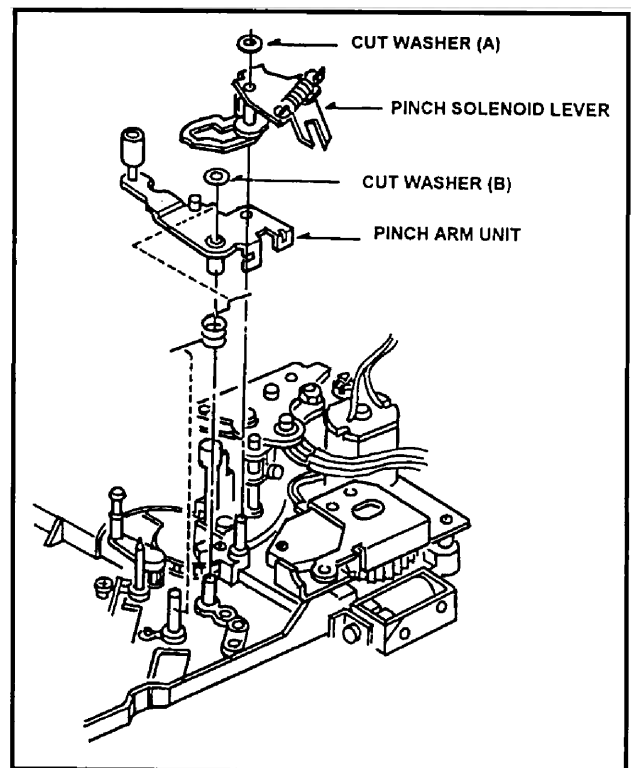


Fig.M10

5-5. Loading Motor Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Disconnect the connector P511 on the RF & Servo C.B.A.
3. Remove the Pinch Solenoid and Pinch Solenoid Lever.(Refer to item 4&5).
4. Unscrew the screw(B)to remove the Emergency Shaft as shown in Figure M11.
5. Unscrew the 2 screw (C)to remove the Loading Motor Unit as shown in Figure M11.
6. Unscrew the 2 screw(D)to remove the Loading Motor Neutral Unit as shown in Figure M11.

(Installation)

1. Install the new Loading Motor Unit according to the reverse procedures for removal.
2. Install the Pinch Solenoid Unit. After installing, Pinch Solenoid Position Adjustment is required.(Refer to "1.Pinch Solenoid Adj." In the Section 3).

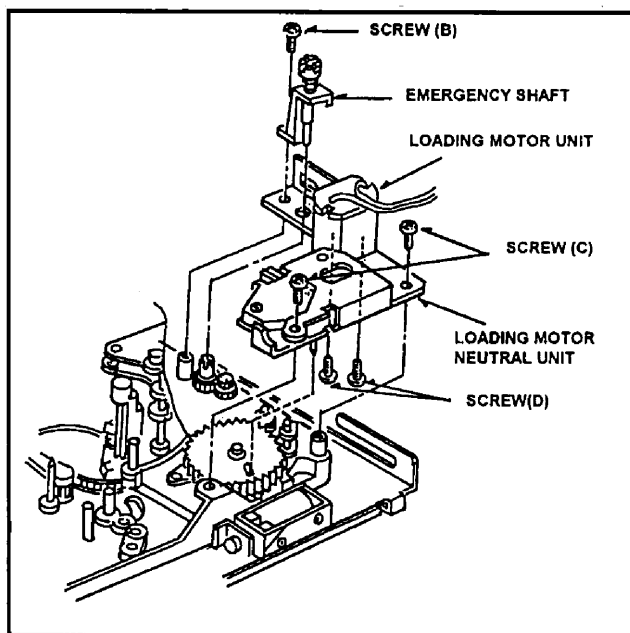


Fig.M11

5-6. Mode Select Switch Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and open MAIN C.B.A.
2. Disconnect the connector P512 on the Servo C.B.A.
3. Remove the Pinch Solenoid Unit and Loading Motor Neutral Unit(Refer to item 4 to 6).
4. Remove the screw(D)to remove the Mode Select Switch Unit from Loading Motor Neutral Unit as shown in Figure M12.

(Installation)

1. Install the New Mode Select Switch Unit according to the reverse procedures for removal.

Note : Confirm that the pin of Mode Switch Unit matches with the groove of Main Cam Gear.

2. After installing, Pinch Solenoid Position Adjustment is required. (Refer to "1.Pinch Solenoid Adj." In the Section 3).

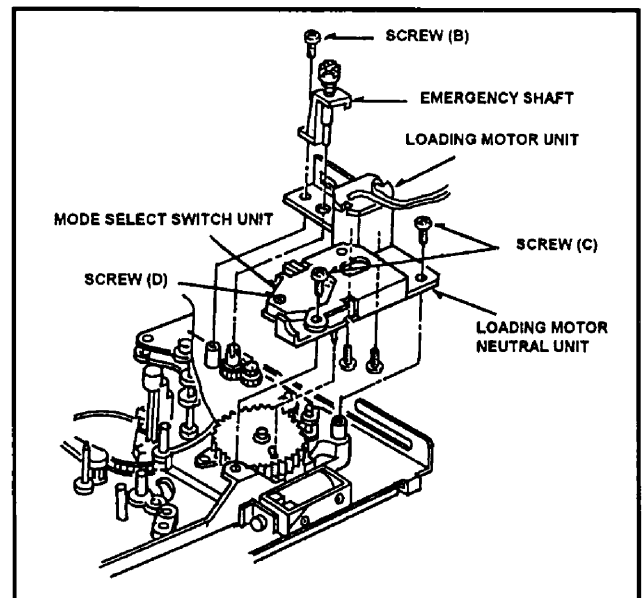


Fig.M12

5-7. Main Cam Gear Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Remove the Pinch Solenoid Unit and Loading Motor Neutral Unit(Refer to item 4 to 6).
3. Remove the Main Cam Gear as shown in Figure M13.

(Installation)

1. Install the Main Cam Gear so that the pin of Main Cam Arm Unit(*) matches with the groove position of Main Cam Gear as shown in Figure M13.
2. Follow the reverse procedures for removal.
3. After installing, Pinch Solenoid Position Adjustment is required,(Refer to "1.Pinch Solenoid Adj." In the Section 3).

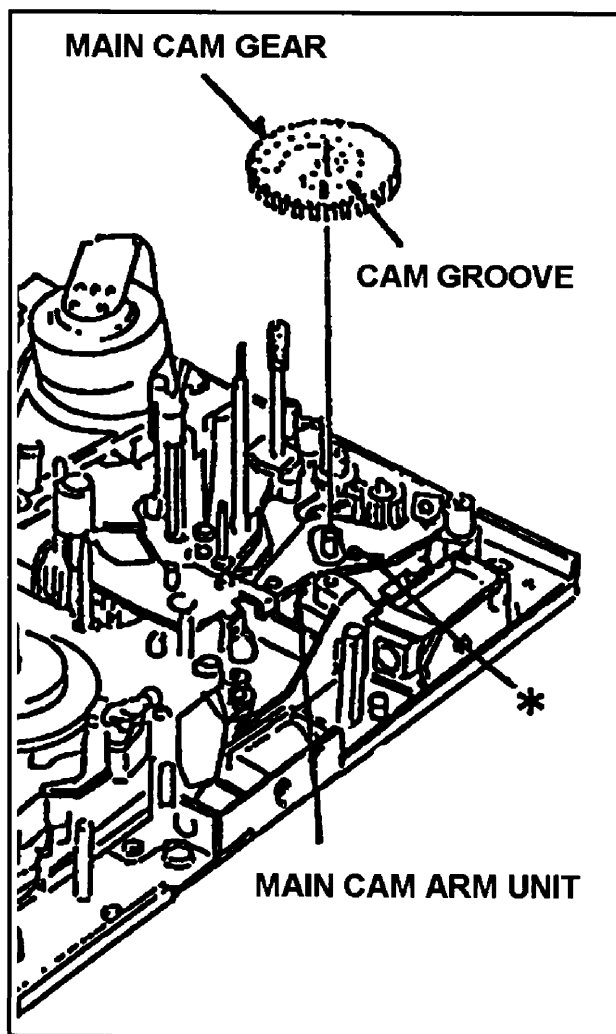


Fig.M13

5-8. Brake Arm & Brake Solenoid Replacement

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Disconnect the connectors P505, P508 on RF & Servo C.B.A.
3. Unscrew the 2 screws(A)to remove the Supply Brake Solenoid and unscrew the screw(B)to remove the Solenoid base as shown in Figure M14.
4. Remove the cut washer (C)to remove the Supply Brake Arm.
5. Unscrew the 2 screws(D)to remove the Take Up Brake Solenoid and unscrew the screw(E)to remove the Solenoid base as shown in Figure M14.
6. Remove the cut washer(F)to remove the Take Up Arm.

(Installation)

1. Install the new cassette Brake Base Unit according to the reverse procedures for removal.

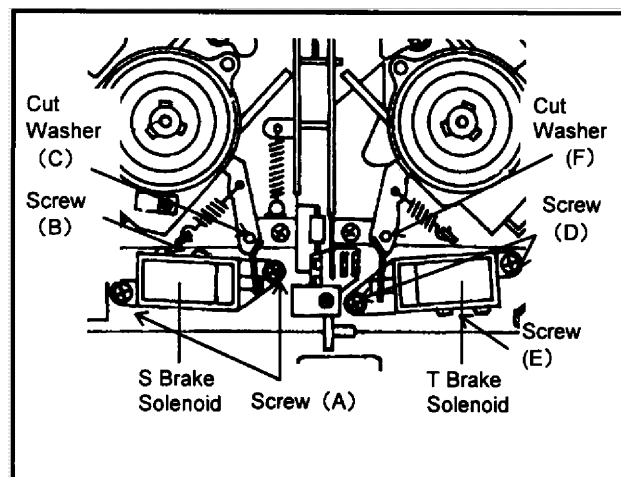


Fig.M14

2. After installing, the Brake Solenoid Position Adjustment required (Refer to item 16 in this section).

5-9. MIC Base Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Disconnect the connector P507 on Servo C.B.A.
3. Unscrew the 2 screws (A) and remove the MIC Base Unit as shown in Figure M15.

(Installation)

1. Install the new MIC Base Unit according to the reverse procedure for removal.
2. Confirm that the M cassette touches to MIC Base Unit properly.

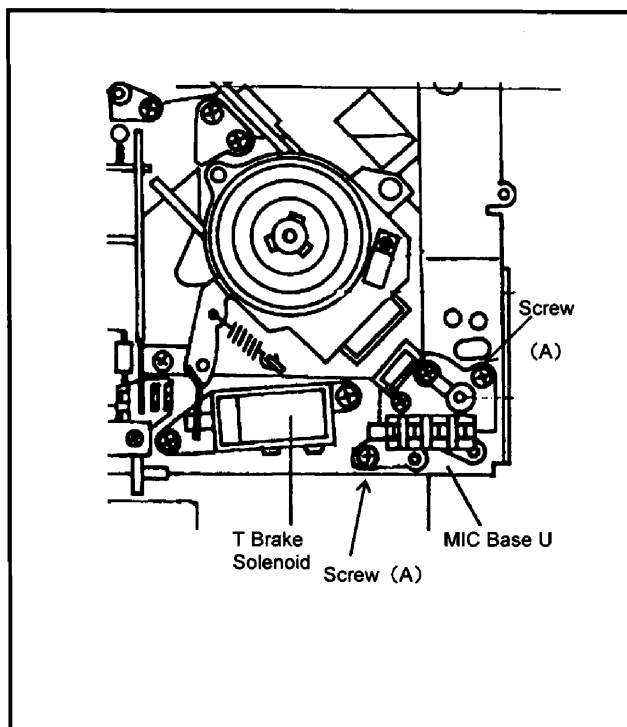


Fig.M15

5-10. S1 & T1 Post Loading Arm Unit Replacement and Adjustment

(Removal)

1. Remove the Cassette Cover, both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Remove the Mechanism Chassis Unit and the Drum Unit.
3. Remove the T1 Guide and the Cleaning Arm Unit.
4. Turn the Emergency Gear to be in middle loading position and unscrew the screw (D),(E) as shown in Figure M16.
5. Remove the S5 Stopper Base and the Tension Arm Unit (Refer to item 14 & 15).
6. Unscrew the screw (A) and remove S1 Post from the Loading Rail as shown in Figure M16.
7. Remove the Cut Washer (B) and remove the S1 Loading Arm Unit as shown in Figure M16.
8. Unscrew the screws (C), and then remove the T1 Post from Loading Rail as shown in Figure M16.
9. Remove the T1 Boat Unit from T1 Loading Arm Unit as shown in Figure M16.

(Installation)

1. Install the new S1 or T1 Loading Arm Unit according to the reverse procedures for removal. Then S1 Post Loading Arm Unit Phase Adjustment should be performed.
2. After installing, confirm that the S1 and T1 Post moves smoothly on the Loading Rail.

(Adjustment)

1. Adjust S1 Post Loading Arm Unit so that the hole (A) should match with the hole (B) as shown in Figure M16.
2. When installing the T1 Boat Unit, the hole (A) Should match with the hole (B) as shown in Figure M17.
3. Tension Arm, Post Height Pre-Adjustment and Linearity Adjustment (Refer to the Section 3) should be performed.

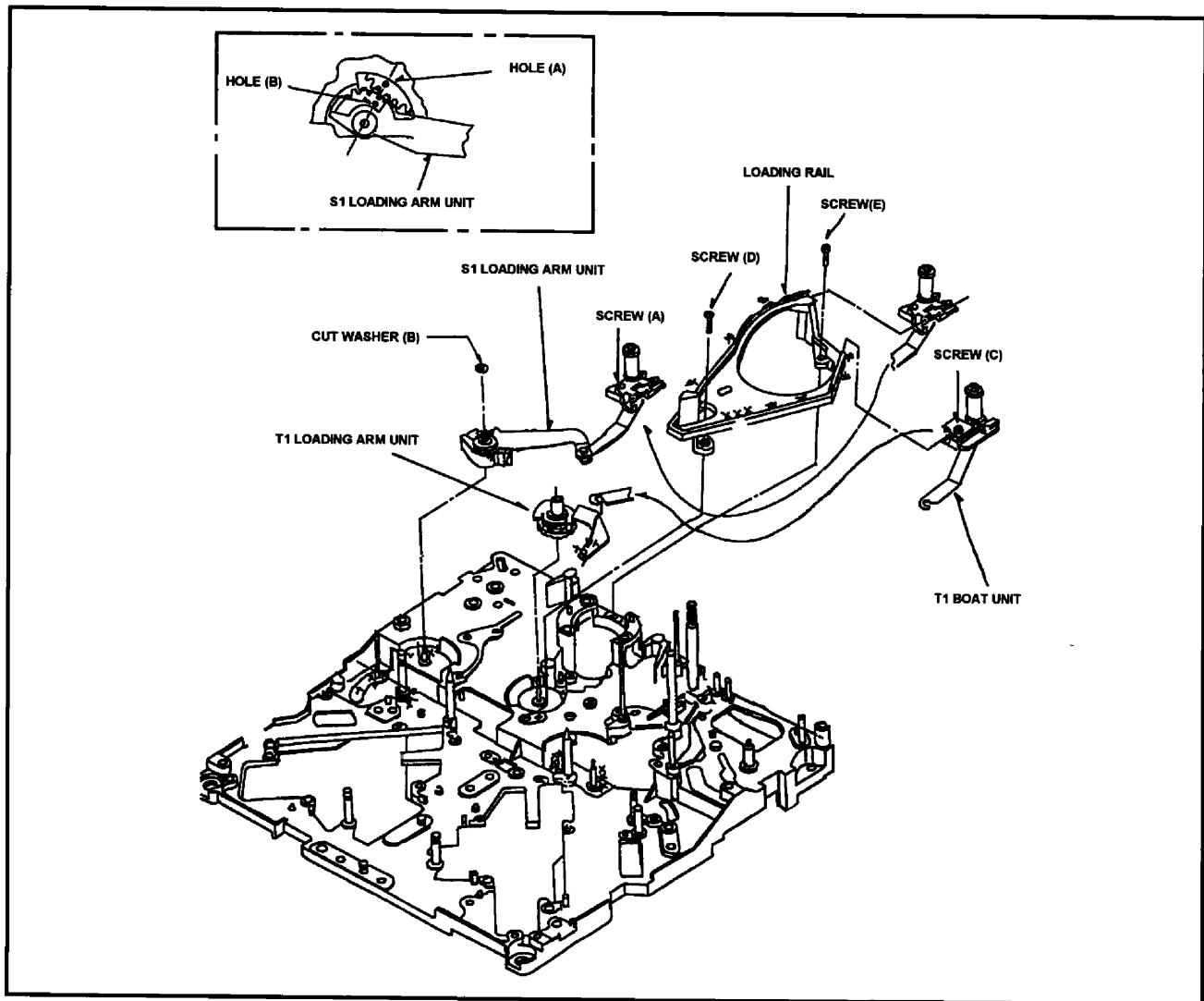


Fig. M16

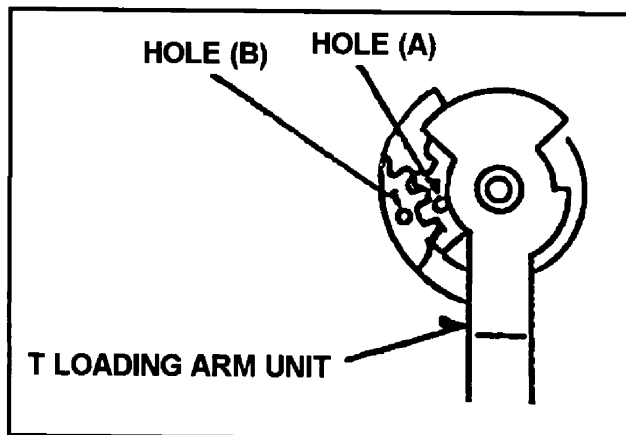


Fig. M17

5-11. Cleaner Solenoid Replacement and Adjustment

(Removal)

1. Remove the Cassette Cover both Side Panel and Cassette Up Unit, and then open MAIN C.B.A.
2. Disconnect the connector P518 on the Servo C.B.A.
3. Unscrew the 2 screws (A) and remove the Cleaner Solenoid Unit as shown in Figure M20.
4. Unscrew the 2 screws (B) and remove the Cleaner Solenoid as shown in Figure M20.

(Installation)

1. Install the new Cleaner Solenoid according to the reverse procedures for removal.
2. After installing, Cleaner Solenoid Position adjustment should be performed as follows.

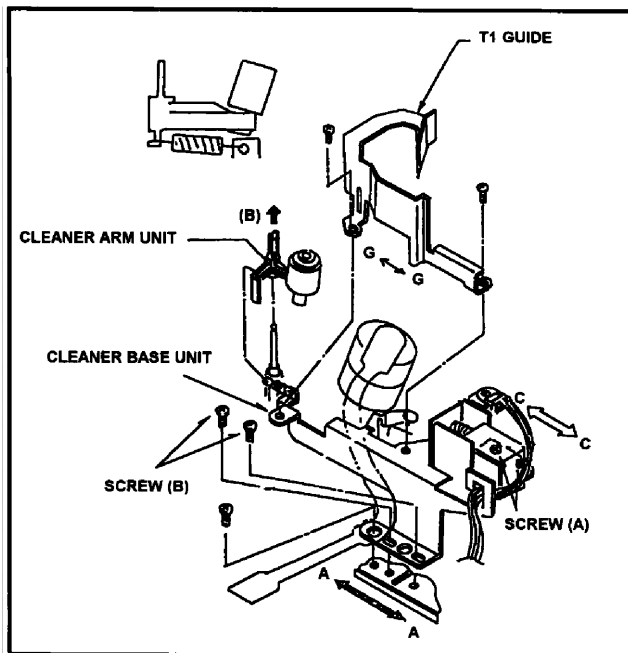


Fig.M20

5-11-1. Cleaner Solenoid Position Adjustment

* Required Tools : Eccentric Driver (VFK0357)

1. Press the iron core of Cleaner Solenoid.
2. Observe the clearance (D) between Cleaning Arm Unit and Cleaner Base Plate as shown in Figure M21. And make sure that it is in between 0.5 and 0.7mm.
3. If not, loosen the 2 screws (A) and adjust the position of Cleaner Solenoid Unit by moving to arrow direction (C↔C) with eccentric driver so that the clearance (D) is within the specification, And tighten the 2 screws (A).
4. After adjustment, confirm as follows.
5. Press the iron core of Cleaner Solenoid to release, and then return the Cleaning Roller to original position.
6. Press the iron core of the Cleaner Solenoid and confirm that the Cleaner Roller is rotated when the cylinder is rotated by hand.

Note : If the cleaner Base Plate is removed, Cleaner Roller Position Adjustment Should be performed.

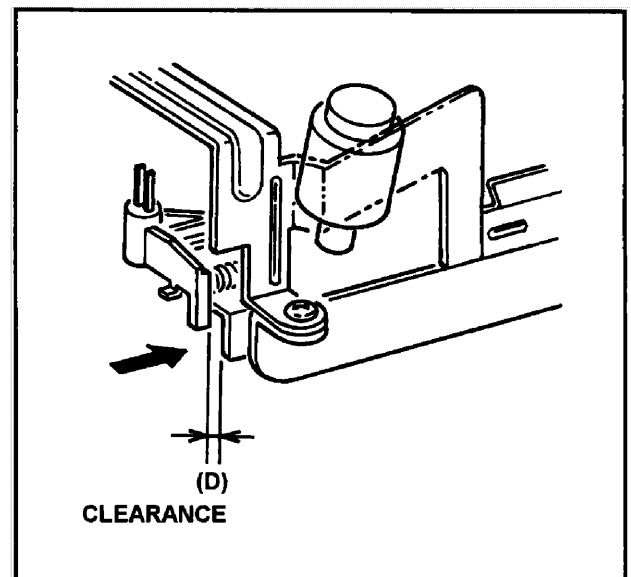


Fig.M21

5-11-2. Cleaner Roller Position Adjustment

*Required Tools : Eccentric Driver (VFK0357)

1. Observe the clearance (A) between Cleaner Roller and Cylinder Unit as shown in Figure M22. And make sure that it is in between 1.0 and 1.2mm.
2. If not, loosen the 2 screws (B) and adjust the position of Cleaner Base Plate by moving to arrow direction (A⇌A) with the Eccentric Driver so that the clearance (A) is within the specification. And tighten the 2 screws (B).

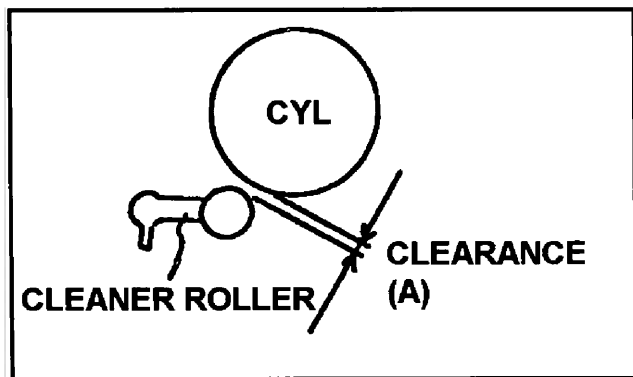


Fig.M22

5-12. S5 Post Base Unit Replacement

(Removal)

1. Remove the Cassette Up Unit.
2. Unscrew the screw (A) and remove the S5 Post Base Unit as shown in Figure M23.

(Installation)

1. Install the S5 Post Base Unit according to the reverse procedures for removal.
2. After installing, Post Height Pre-adjustment and Linearity Adjustment (Refer to the Section 3.) should be performed.

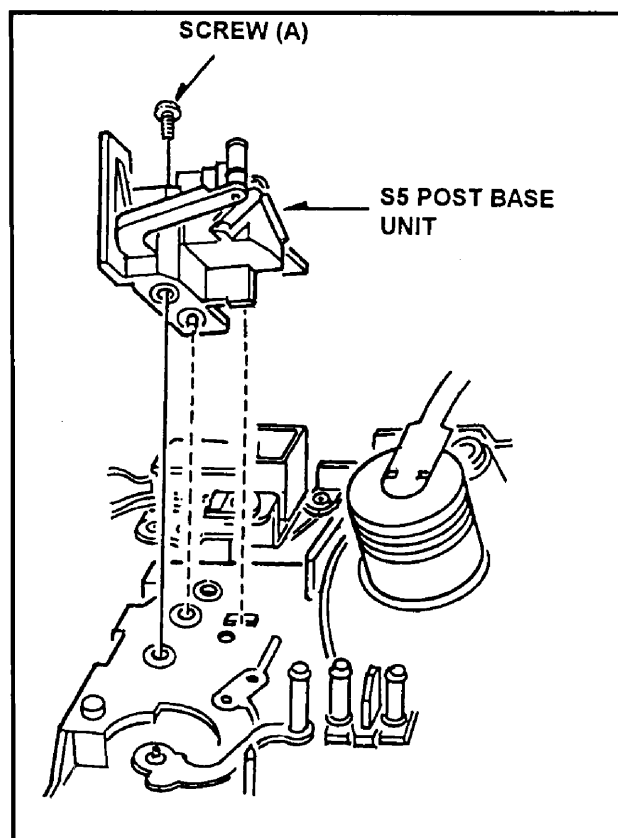


Fig.M23

5-13. Tension Arm Unit Replacement

(Removal)

1. Remove the Cassette Cover and Left Side Panel.
2. Remove the Cassette Up Unit.
3. Remove the Cut Washer (A) and pick up the Tension Reg. Spring. Then remove the Tension Arm Unit as shown in Figure M24.

(Installation)

1. Install the new Tension Arm Unit according to the reverse procedures for removal.
2. After installing, Tension Arm Adjustment should be performed as follows.

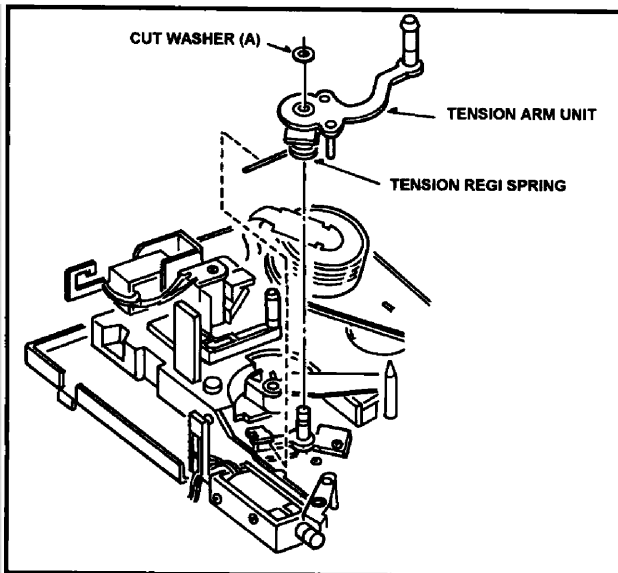
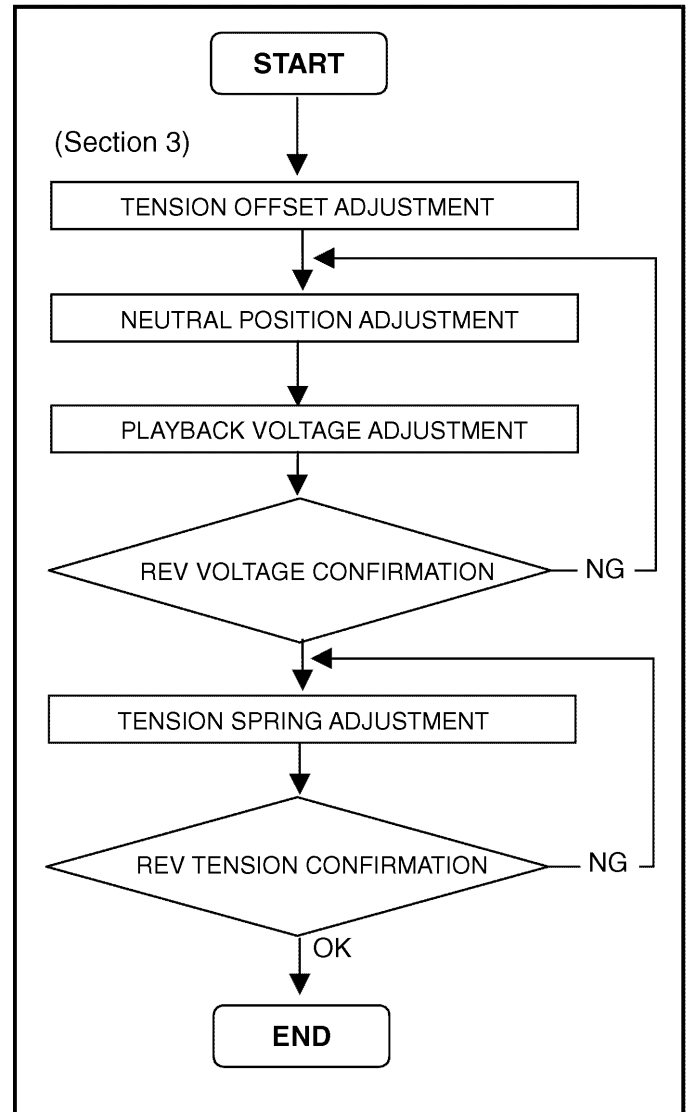


Fig.M24

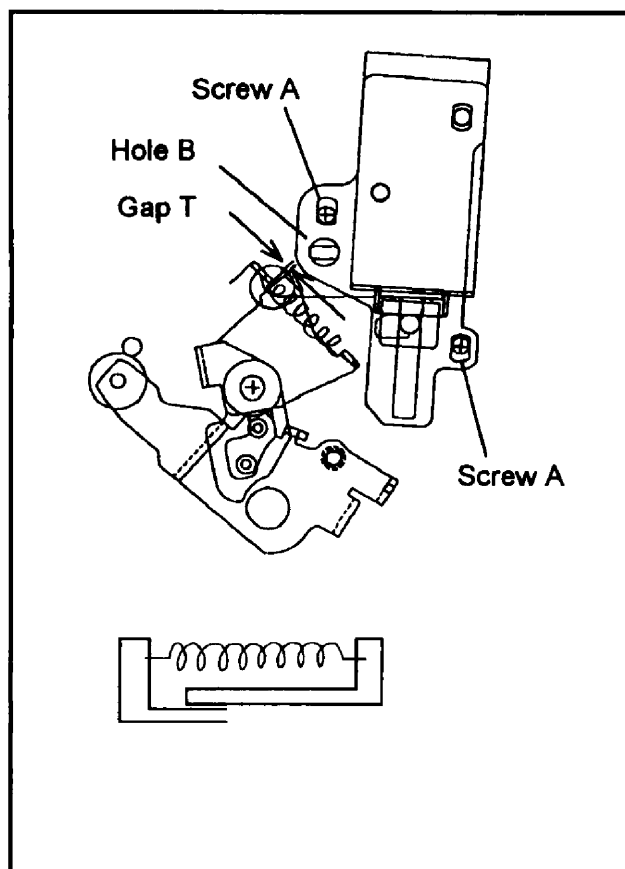
Tension Arm Adjustment Flowchart



5-14. Pinch Solenoid Adjustment

SPEC.	T=0.3mm
TEST	Gap T
ADJUST	Screw A, Hole B
MODE	Eject (Power OFF)
TOOL	VFK0357

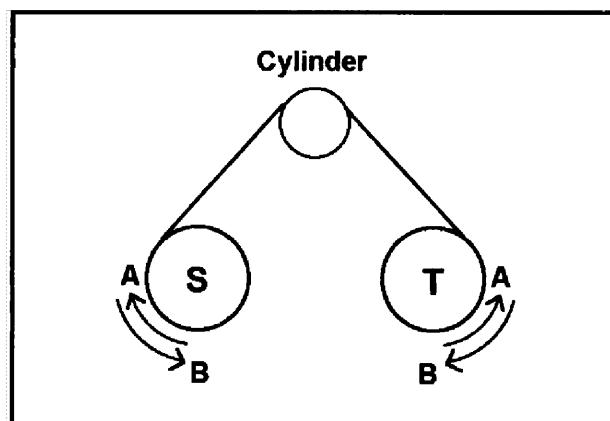
1. Confirm the power off.
2. Push the pinch roller by hand to be close to capstan.
3. Push the pinch solenoid by hand so that the Pinch roller contacts capstan.
4. Loosen the two screws A.
5. Adjust the hole B so that gap T is within the specification.
6. Tighten the two screws A.



5-15. Main Brake Torque Confirmation

SPEC.	Direction A : 0.4 ± 0.2 cN.m Direction B : 0.2 ± 0.1 cN.m
TEST	S Reel, T Reel
MODE	Eject (Power OFF)
TOOL	VFK71, VFK1191, VFK1152

1. Confirm the power off.
2. Remove the Cassette Up Unit.
3. Install the adapter (VFK1152) to the torque gauge (VFK71).
4. Put the torque gauge on S Reel.
5. Turn the torque gauge to direction A until S Reel slips against brake.
6. Confirm the torque is within the specification.
7. Put the torque gauge on T Reel.
8. Turn the torque gauge to direction A until T Reel slips against brake.
9. Confirm the torque is within the specification.
10. Install the adapter (VFK1152) to the torque gauge (VFK1191).
11. Put the torque gauge on S Reel.
12. Turn the torque gauge to direction B until S Reel slips against brake.
13. Confirm the torque is within the specification.
14. Put the torque gauge on T Reel.
15. Turn the torque gauge to direction B until T Reel slips against brake.
16. Confirm the torque is within the specification.

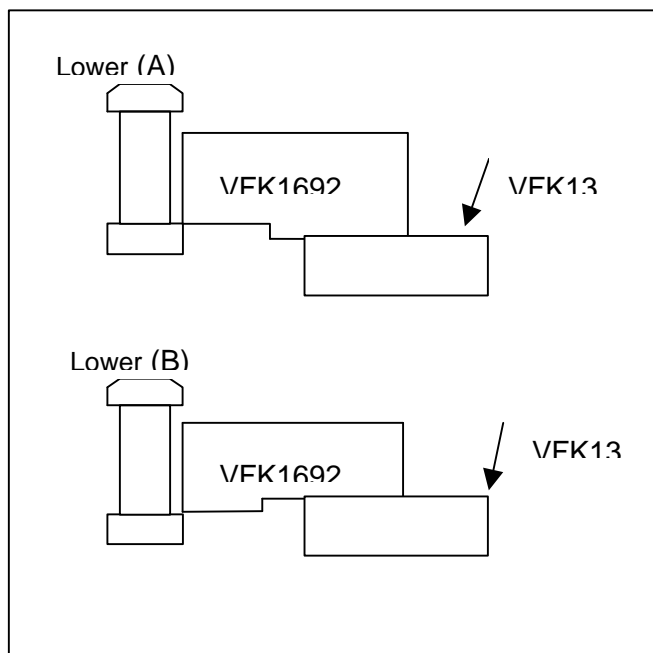


5-16. Post Height Preadjustment

MODE	Eject (Power OFF)
TOOL	VFK1348, VFK1692

1. Turn the power OFF and then set the tube* to cover the TAPE DETECT LED and place the unit into no tape loading mode.
2. Install the Mech.Neutral Plate and adjust each post height as shown in figure.

Post	Limit	Post Driver
S4	Lower	VFK1149
S5	Lower	VFK1149
T4	Lower	VFK1151 (2.5mm Nut Driver)

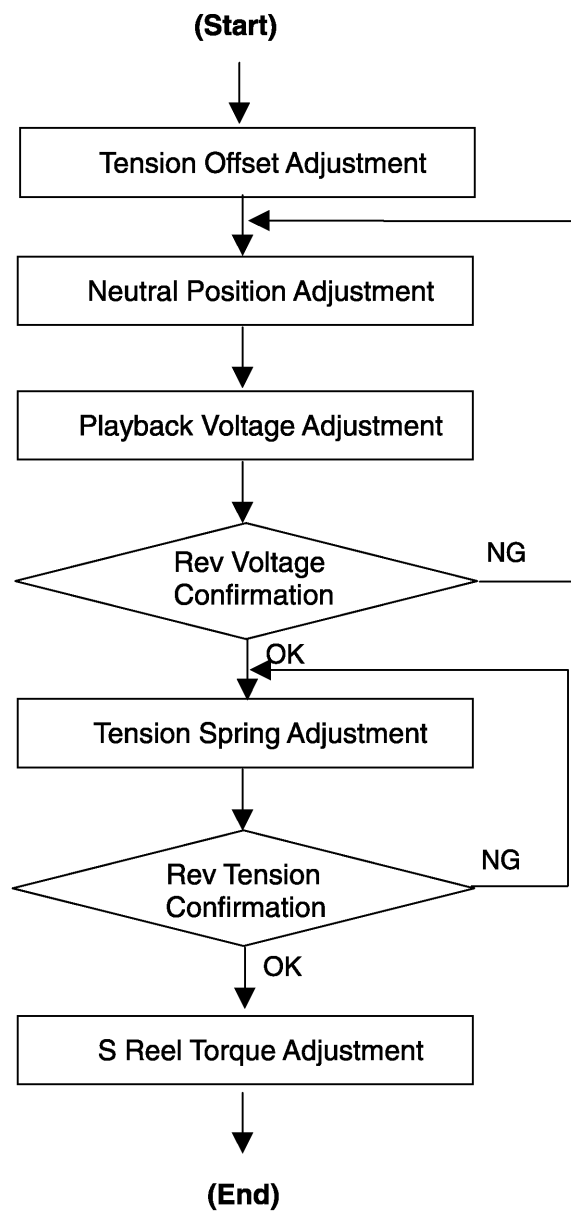


5-17. Reel Torque Adjustment

BOARD	RF & SERVO
SPEC.	60 ± 4mV (S.T)
TEST	TP300(S),TP301(T),TG302(GND)
ADJUST	VR601(S),VR602(T)
MODE	PLAY
M.EQ	Digital Volt Meter

1. Open the item "T TORQUE 5 TORQUE" on the service menu "VTR SERVICE 2/2".
 2. Place the unit into PLAY mode with holding S reel by hand.
 3. Adjust the VR300 so that the DC voltage at TP300 is within the specification.
1. Adjust the VR301 so that the DC voltage at TP300 is within the specification.

Tension Adjustment Flowchart



5-18. Tension Offset Adjustment

BOARD	RF & SERVO
SPEC.	2.5 ± 0.05V
TEST	TP400
ADJUST	VR400
MODE	EJECT
M.EQ	Digital Volt Meter

1. Adjust the VR400 so that the DC voltage at TP400 is within the specification.

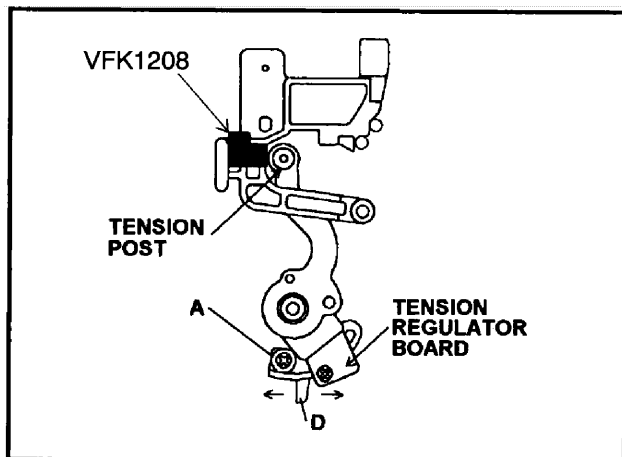
5-19. Neutral Position Adjustment

BOARD	RF & SERVO
SPEC.	$2.5 \pm 0.1V$
TEST	TP400
ADJUST	Sensor
MODE	STOP
TOOL	VFK1208
M.EQ	Digital Volt Meter

1. Remove the cassette up unit.
2. Set the tube* to cover the TAPE DETECT LED and place the unit into no tape loading mode.
3. Install the black spacer (VFK1208) at the position as shown in figure. Adjust the sensor position so that the TP400 voltage is within the specification. To adjust, loosen the screw A and adjust the lever D.

Note.

1. Make a tube* by yourself.



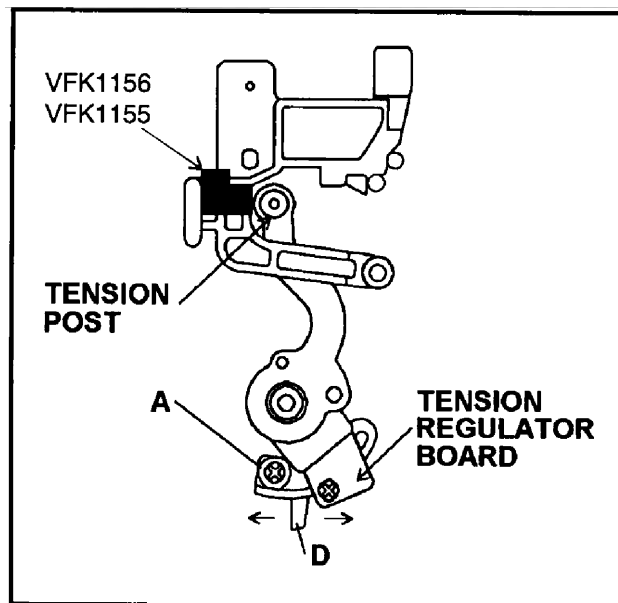
5-20. Play & Rev Tension Adjustment

BOARD	RF & SERVO
SPEC.	(PLAY) $3.8 \pm 0.05V$ (REV) $1.2 \pm 0.3V$
TEST	TP400
ADJUST	VR401
MODE	STOP
TOOL	VFK1156, VFK1155
M.EQ	Digital Volt Meter

1. Set the tube* to cover the TAPE DETECT LED and place the unit into no tape loading mode.
2. Install the black spacer (VFK1156) at the position as shown in figure. Adjust the VR401 so that the TP400 voltage is within the specification (PLAY). To adjust, loosen the screw A and adjust the lever D.
3. Install the gold spacer (VFK1155) at the same position instead of the black one. Confirm that the TP400 voltage is within the specification (REV).

Note.

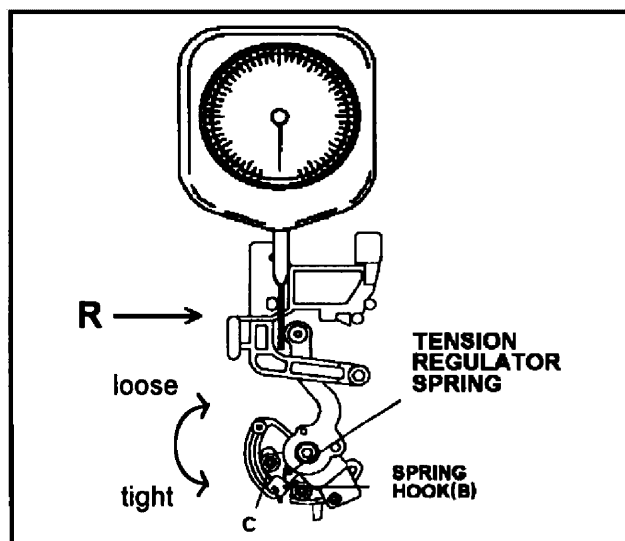
1. Make a tube* by yourself.
2. In case that it is impossible to adjust within the specification, readjust from Neutral Position Adjustment.



5-21. Tension Spring Adjustment

BOARD	RF & SERVO
SPEC.	$110 \pm 10\text{mN.m}$
TEST	TP400
ADJUST	Spring hook (B)
MODE	STOP
TOOL	VFK1188
M.EQ	Digital Volt Meter

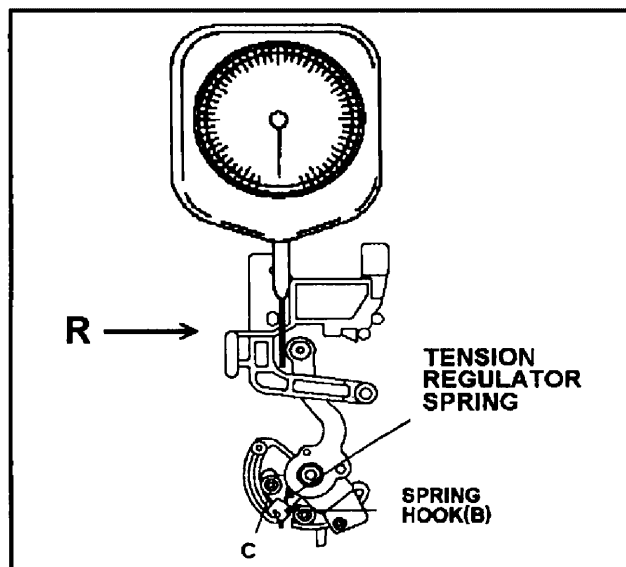
1. Remove the cassette up unit.
2. Set the tube* to cover the TAPE DETECT LED and place the unit into no tape loading mode.
3. Insert the tension gauge to push the tension post to the direction R until the voltage at the TP400 becomes 3.8V (PLAY position).
4. Adjust the position of hook (B) so that the indication of gauge is within the specification. To adjust hook (B), loosen the screw (C).



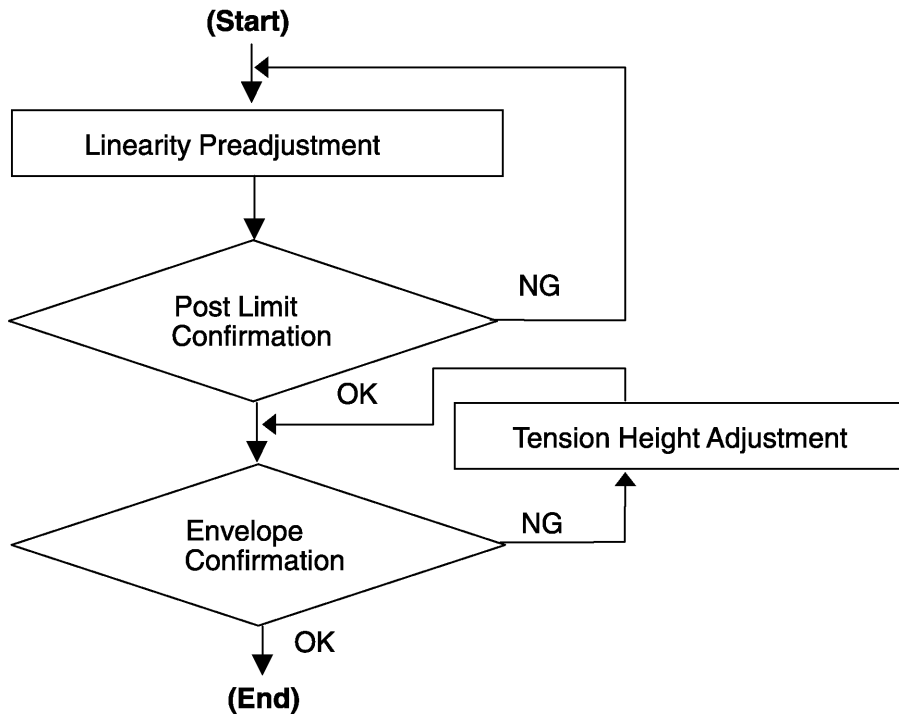
5-22. REV Tension Confirmation

BOARD	RF & SERVO
SPEC.	$180 \pm 20\text{mN.m}$
TEST	TP400
MODE	STOP
TOOL	VFK1188
M.EQ	Digital Volt Meter

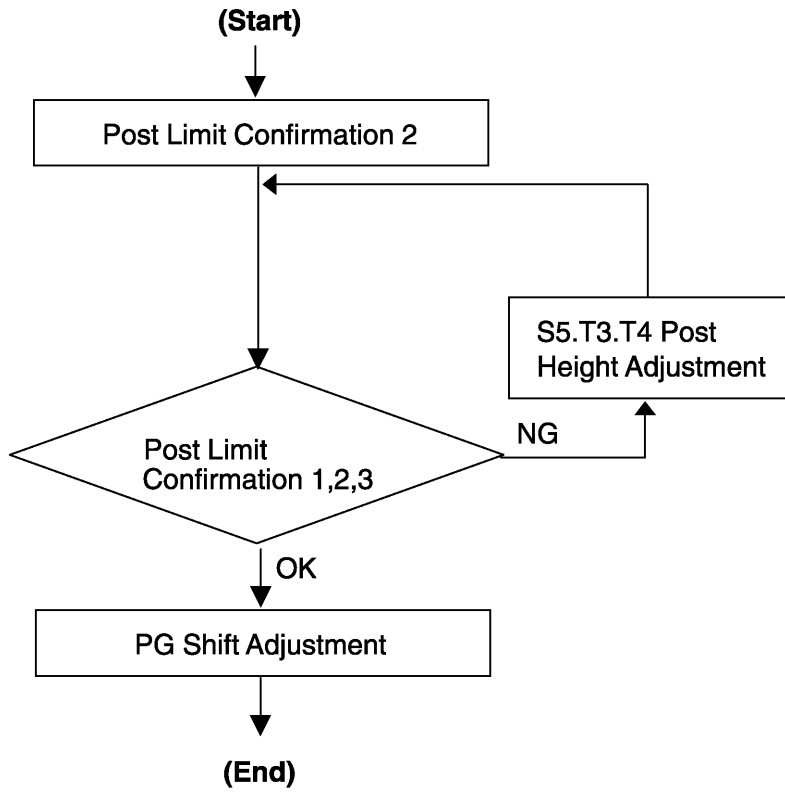
1. Set the tube* to cover the TAPE DETECT LED and place the unit into no tape loading mode.
2. Insert the tension gauge to push the tension post to the direction R until the voltage at the TP400 becomes 1.2V (REV position).
3. Confirm that the indication of gauge is within the specification. If not, make the Tension Spring Adjustment again.



Tape Path Adj. Flowchart



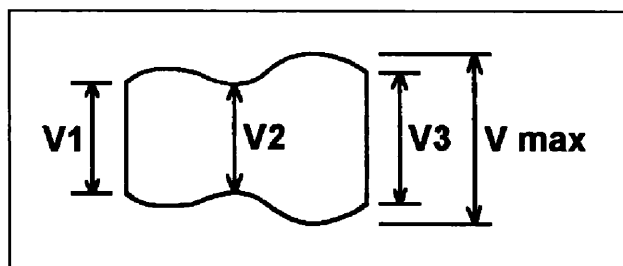
Post Limit Confirmation Flowchart



5-23. Linearity Preadjustment

SPEC.	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
TEST	TP1 (RF & SERVO Board)
ADJUST	S1, T1 Post Height
MODE	PLAY (ATF)
TAPE	VFM3010EDL
M.EQ	Oscilloscope
TOOL	VFK1149

1. Play the alignment tape.
2. Adjust the S1 and T1 posts so that the envelope output is within the specification.



5-24. Post Limit Confirmation 1

SPEC.	Post limits shown in the table. No tape curl
MODE	PLAY
TAPE	BLANK TAPE
TOOL	VFK1149, VFK1151

Post Limit Table

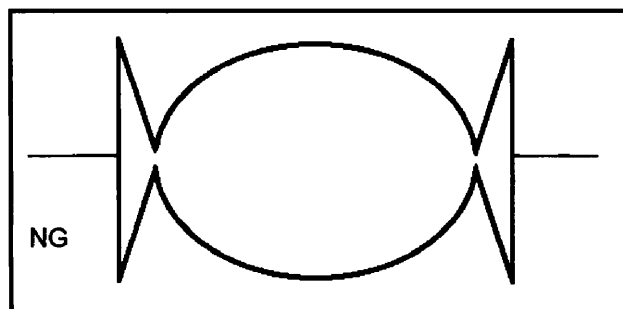
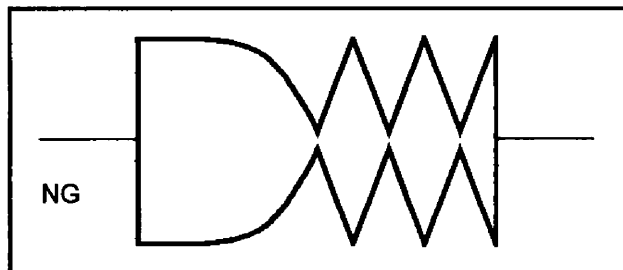
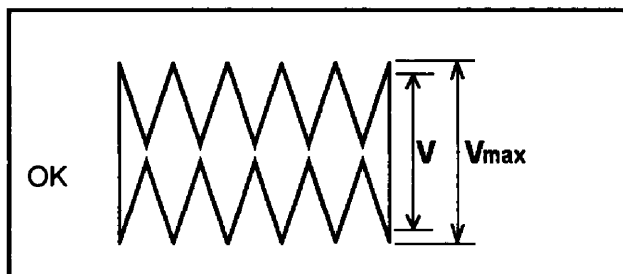
Post	Limit	Adjustment
S5 Post	Lower Limit or Free	S5 Post Height
S4 Post	Lower Limit	S4 Post Height
S1 Post	Upper Limit	Linearity
T1 Post	Upper Limit	Linearity
T4 Post	Lower Limit or Free	T4 Post Height

1. Confirm the post limit of each post and adjust in case of necessary.

5-25. Envelope Confirmation 1

SPEC.	$V/V_{max} \geq 0.9$
TEST	TP1 (RF & SERVO Board)
MODE	FF,REW,REV(PLAY&REW)
TAPE	VFM3010EDL
M.EQ	Oscilloscope

1. Confirm the envelope in each mode.
2. If out of specification, adjust the S4 post height again.



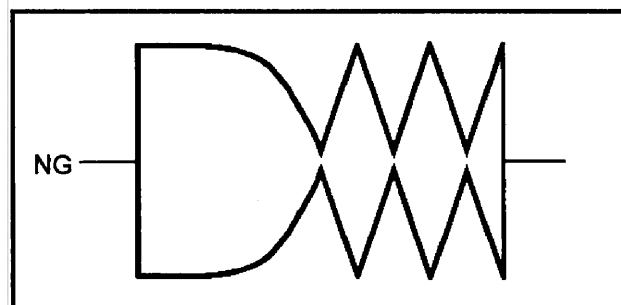
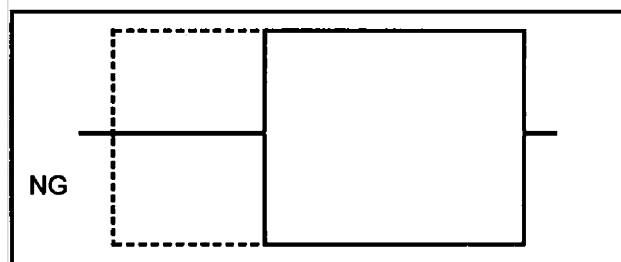
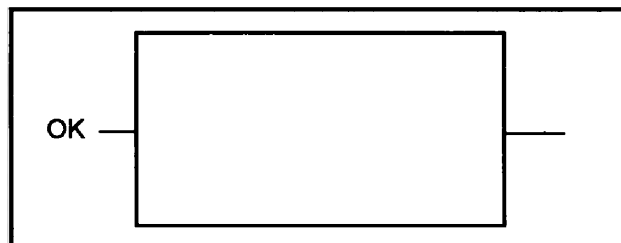
*REVX1 Setting

- (1) Press the PLAY key repeatedly twice to enter the STILL mode.
- (2) Press the RESET and PLAY buttons simultaneously.

5-26. Envelope Confirmation 2

SPEC.	Envelope appears immediately.
TEST	TP1 (RF & SERVO Board)
MODE	REW/REV(PLAY & REW) →PLAY FF→PLAY LOADING→PLAY
TAPE	NTSC : VFM3580KL PAL : VFM3680KL
M.EQ	Oscilloscope

1. Confirm that the envelope appears immediately after the mode is switched from REW to PLAY, from REV to PLAY from FF to PLAY and from LOADING to PLAY.
- 2.If out of specification, adjust the S4 post height again.



*For the REV mode, refer to the item number 15.

5-27. Post Limit Confirmation 2

SPEC.	Post limits shown in the table. No tape curl
MODE	REV (PLAY & REW)
TAPE	DV L CASSETTE
TOOL	VFK1149,VFK1151

Post Limit Table

Post	Limit	Adjustment
S5 Post	Upper Lower Limit or Free	S5 Post Height
S4 Post	Lower Limit or Free	S4 Post Height
S1 Post	Upper Limit	Linearity
T1 Post	Upper Lower Limit or Free	Linearity
T4 Post	Lower Limit	T4 Post Height

1. Confirm the post limit of each post and adjust again in case of need.

5-28. Post Limit Confirmation 3

SPEC.	Post limits shown in the table. No tape curl
MODE	FF, REW
TAPE	DV L CASSETTE (beginning or ending portion)
TOOL	VFK1149,VFK1151

Post Limit Table

Post	Limit	Adjustment
S5 Post	Upper Lower Limit or Free	S5 Post Height
S4 Post	Lower Limit or Free	S4 Post Height
S1 Post	Upper Limit	Linearity
T1 Post	Upper Lower Limit or Free	Linearity
T4 Post	Free	T4 Post Height

1. Confirm Post Limit Confirmation 1 and 2 Playing beginning or ending portion of L cassette.
2. Confirm the post limit of each post and adjust again in case of necessary.
3. If T3 post is adjusted, confirm that the tape has no curl at T3 post while loading or unloading.

5-29. PG Shifter Adjustment

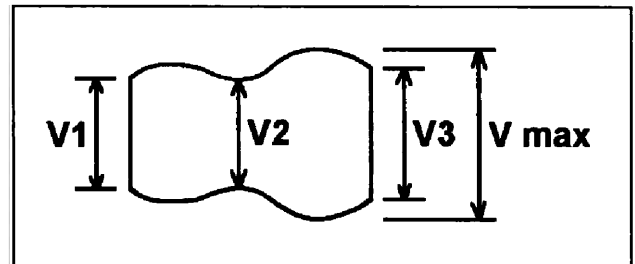
BOARD	Servo
SPEC.	$126.3 \pm 2.5\mu\text{s}$
TEST	TP501,TP500
ADJUST	SERVICE MENU 2/2 PG SHIFT
MODE	PLAY
TAPE	VFM3010EDL
M.EQ	Oscilloscope

1. Adjust the PG SHIFT of the service menu the specification (Trigger : TP501).

5-30. Linearity Adjustment

SPEC.	$V1/V_{\text{max}}, V2/V_{\text{max}}, V3/V_{\text{max}} \geq 0.8$
TEST	TP1 (RF & SERVO board)
MODE	PLAY
TAPE	Blank Tape
TOOL	VFK1149
M.EQ	Oscilloscope

1. Record the color bar signal.
2. Play back the recorded portion and confirm that the envelope output is within the specification.



5-31. LISTA Adjustment Procedures

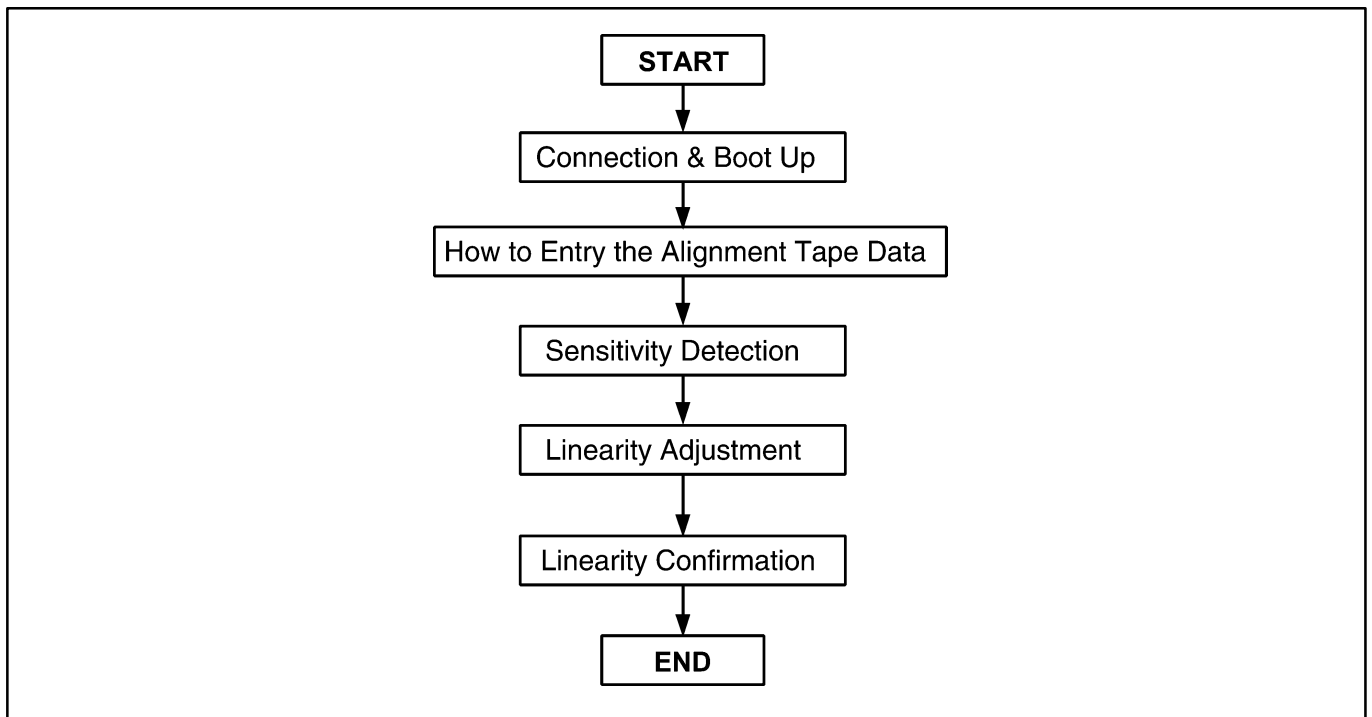
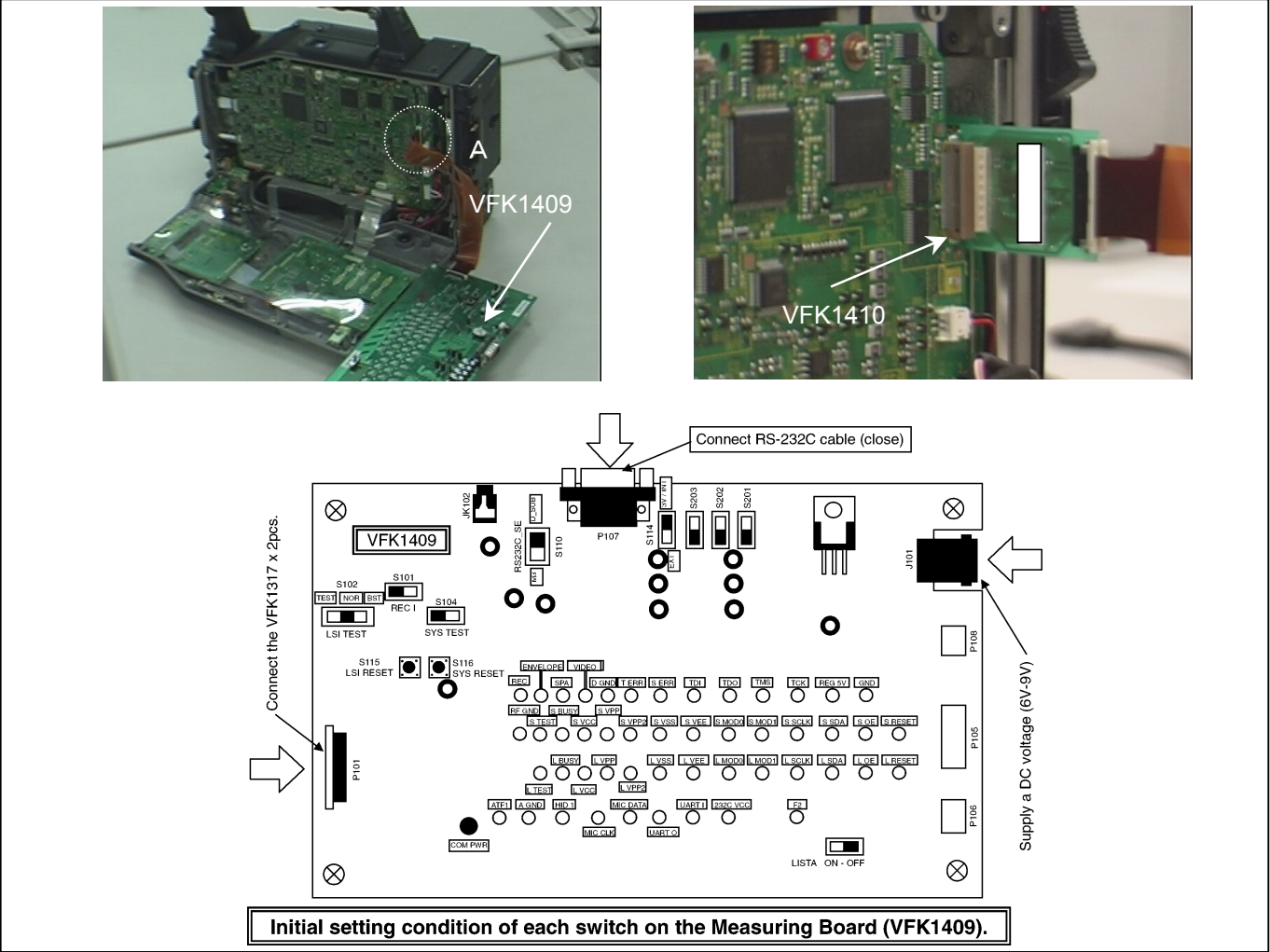


Figure 1

5-32. LISTA Connection and Boot Up

TAPE	VFM3000EDL (DV LISTA)
M. EQ	Personal Computer (A/D Board should be installed.)
TOOL	VFK1481C (LISTA Software), VFK1186 (LISTA Cable), VFK1300 (A/D Converter Board), VFK1409S (Measuring Board) , VFK1410 (Connection Board)
TP	TP F2 : ATF-ERR (VFK1409S), TP HID1 : TRG (VFK1409S), TP GND : GND (VFK1409S)

1. Connect a PC, the Measuring Board and the AG-DVC200 as shown below.



2. Connect the clips of the LISTA cable to test point on the Measuring Board. (VFK1409S) (Refer to Items “Sensitivity Adjustment” and “Linearity Adjustment”.)
3. Set the switches on the Measuring Board as shown below.

<VFK1409S>		
SW REF.	NAME OF SW	SETTING POSITION
-----	LISTA ON - OFF	ON Position

Figure 3

4. Boot up the LISTA software on DOS mode.

< How to Install and Boot Up >

Copy all files on the floppy disk (VFK1481C : LISTA Software) to created directly on PC (i.e.; C:¥LISTA). Type “LISTA” and press **ENTER** key, then the LISTA software VFK1481C boot up.

5. After the LISTA software boot up, <<< **FORMAT SELECT** >>> display appears. Select the item “**DV**”.
6. After select the format, <<< **VTR SELECT** >>> display appears, and select the model “**DVC200**”.



5-33. How to Entry the Alignment Tape Data

1. Select the item “<4> **Alignment Tape**” on the LISTA main menu.
2. Select the item “<2> **ENTRY**” on the alignment menu.
3. After the screen of << **Alignment Tape Data Entry** >> is displayed, first input the Serial Number of Alignment tape printed on the tape label. And input the number “0” or “1” for selected the PAL/NTSC. And after that for entry the tape type, incase of DVCPRO input to “0”, in case of DV input to “1” for DV. (input “0” for DVCPRO)
4. After select the tape type, the frame for input the DATA and CHECK SUM appears on the screen. Input the numerical value on the data sheet, which are enclosed with alignment tape. If input the wrong number, appear the error message on the screen, then confirm that the data on the sheet.
5. After entry the data, select “<1> **SELECT**” on the Alignment Tape Menu and select the serial number of the alignment tape.

<< **Alignment Tape Data Entry** >> Serial No. 0596003 (NTSC) 10µm

[1]	- 0.1
[2]	0.1
[3]	0.0
[4]	0.2
[5]	0.6
[6]	0.5
[7]	0.7
[8]	0.9
[9]	1.0
[10]	0.8

[11]	0.7
[12]	1.0
[13]	0.7
[14]	0.5
[15]	0.2
[16]	- 0.5
[17]	- 0.3
[18]	- 0.3
[19]	- 0.1
[20]	- 0.6

[21]	- 0.4
[22]	- 0.2
[23]	- 0.7
[24]	- 0.6
[25]	- 0.7
[26]	- 0.3
[27]	- 0.4
[28]	- 0.4
[29]	- 0.6
[30]	- 0.3

[31]	- 0.4
[32]	- 0.6
[33]	- 0.3
[34]	- 0.2
[35]	- 0.1
[36]	- 0.3
[37]	- 0.1
[CS]	- 0.6

6. Next, select the Serial number of the Alignment tape on the screen. In case of LISTA software does not have alignment tape data registered data entry is needed. Press the ESC key, then main menu is displayed on the

screen. And select the item “<4> Alignment Tape” for entry the data on the attachment sheet, which is enclosed with alignment tape.

7. If LISTA software has data of alignment tape, select the serial number of Alignment tape, then message “ok?(y/n)” appears on the screen. And press “ Y ” or “ ENTER ” key, then LISTA main menu is displayed on screen.

5-34. LISTA Sensitivity Detection

TP	TP F2 : ATF ERR (VFK1409S), TP HID1 : TRG (VFK1409S), TP GND : GND (VFK1409S)
VTR MODE	PLAY
ADJ. MODE	Tape Speed 101.2% Mode (AUTO)
TAPE	VFM3000EDL (DV LISTA)
SPEC.	150 ± 10 (mV / μ m)

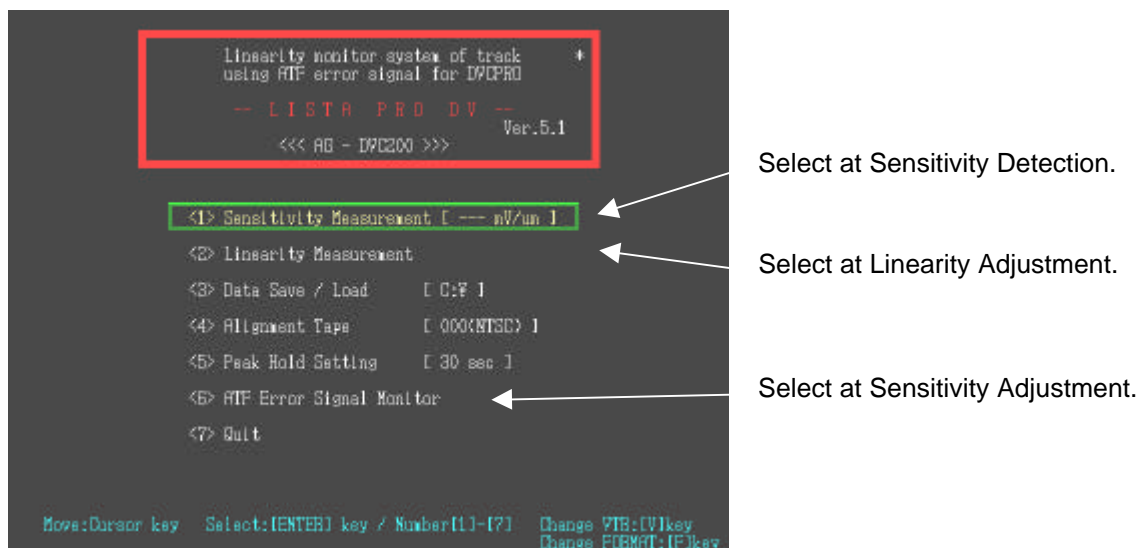


Figure 8

1. Insert the DV Alignment Tape (VFM3000EDL).
2. Select item "<1> Sensitivity Measurement " and press "ENTER".
3. Then the tape is played (tape speed : 101.2%) automatically.
4. Adjust the RF GAIN on the service menu so that the sensitivity Value of the Screen is within the Specification.

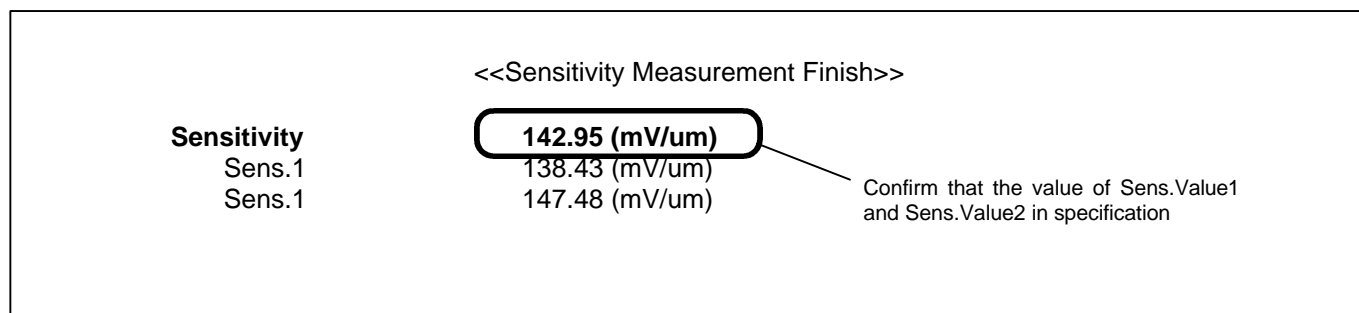


Figure 9

5-35. LISTA Linearity Adjustment

TP	TP F2 : ATF ERR (VFK1409S), TP HID1 : TRG (VFK1309S), TP GND : GND (VFK1409S)
ADJ.	S1 and T1 Post Height
VTR MODE	PLAY
ADJ. MODE	Linearity Adjustment Mode (AUTO)
TAPE	VFM3000EDL (DV LISTA)
TOOL	VFK1149A : Post Driver
SPEC.	Linearity : less than 3 μ m

1. Insert the DV Alignment Tape (VFM3000EDL).
2. Select the item "<2> Linearity Measurement" on the LISTA Main Menu, then Linearity Waveform appears.
3. When the waveform as shown below is displayed on the screen, press the "BS (Back Space)" key to move the waveform at the center of the scale on screen. Adjust S1 and T1 post height by using the post driver so that the linearity waveform becomes as flat as possible, and it should be within the specification.
(Adjust linearity to have waveform in between the red dot line on the screen.)

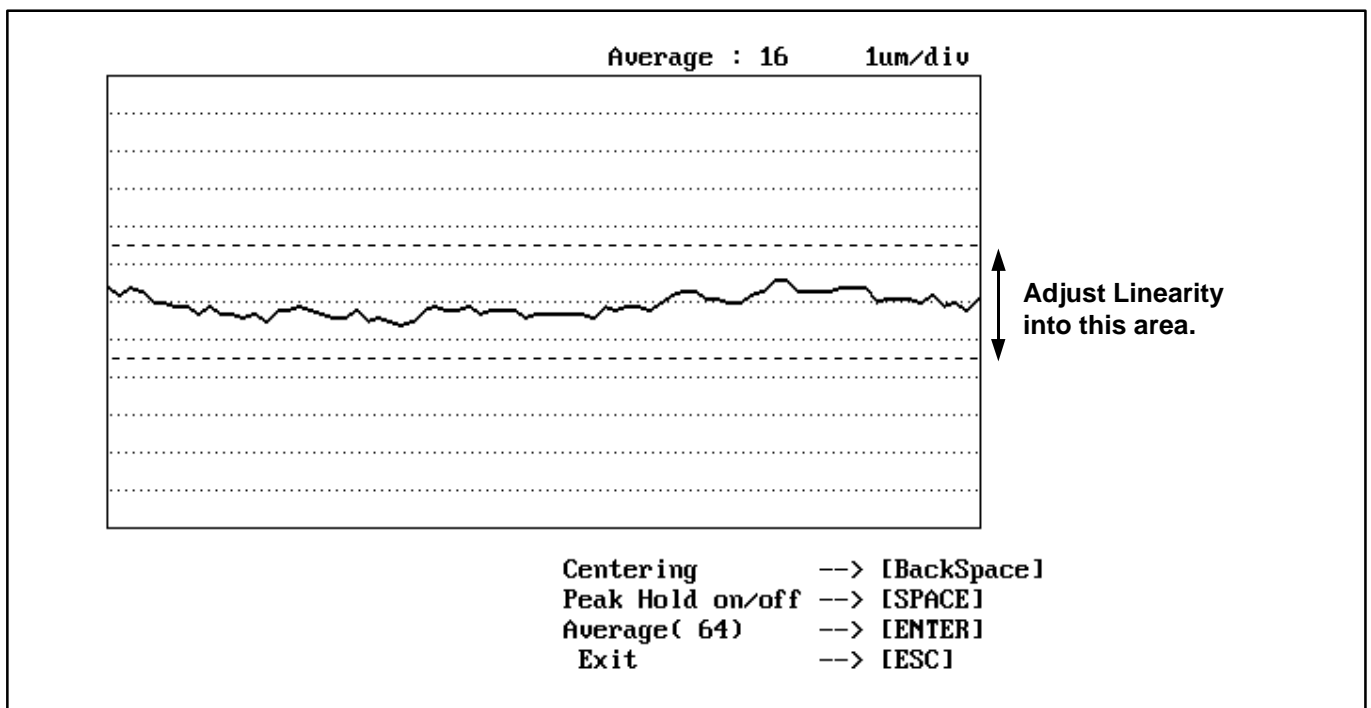


Figure 10

POINT :

The part of left side of waveform (entrance side) is adjusted by height of S1 post and part of right side of waveform (exit side) is adjusted by height of T1 post.

Lower part of above waveform of figure is displayed lead of Cylinder.

When the post driver is remove from upper part of post, linearity waveform may be changed.

After finish this adjustment, eject the tape and insert the tape again to confirm the shape of linearity waveform does not changed.

SECTION 4

ELECTRICAL ADJUSTMENTS

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Electrical Adjustments

1. VDDM Voltage Adjustment

BOARD	MAIN
M.POINT	TP3701 (VDDM)
ADJUST	VR3701 (VDDM_ADJ)
MODE	EE
TAPE	----
M.EQ.	Digital Voltmeter
SPEC.	2.375V \pm 0.02V

1. Monitoring the voltage at TP3701, adjust VR3701 so that the DC voltage comes in the specification.

2. T-Reel Torque Offset Adjustment

BOARD	RF & SERVO
M.POINT	TP301, TP302 (GND)
ADJUST	VR301
MODE	ADJ. MODE
TAPE	----
M.EQ.	Digital Voltmeter
SPEC.	60V \pm 4mV

1. Hold the cassette carriage at its down position without inserting any cassette.
2. Select VTR SERVICE 2/2.. in VTR MAIN menu using JOG, and press JOB button.
3. Select T_TORQUE in VTR SERVICE 2/2 menu using JOG, and press JOB button.
4. Monitoring the voltage at TP301 while locking the T-reel motor by hand, adjust VR301 so that the voltage comes in the specification.
5. After finishing the adjustment, exit the adjustment mode.

3. S-Reel Torque Offset Adjustment

BOARD	RF & SERVO
M.POINT	TP300, TP302 (GND)
ADJUST	VR300
MODE	ADJ. MODE
TAPE	----
M.EQ.	Digital Voltmeter
SPEC.	60V \pm 4mV

1. Hold the cassette carriage at its down position without inserting any cassette.
2. Select VTR SERVICE 2/2.. in VTR MAIN menu using JOG, and press JOB button.
3. Select S_TORQUE in VTR SERVICE 2/2 menu using JOG, and press JOB button.
4. Monitoring the voltage at TP300 while locking the S-reel motor by hand, adjust VR300 so that the voltage comes in the specification.

5. After finishing the adjustment, exit the adjustment mode.

4. Tension Offset Voltage Adjustment

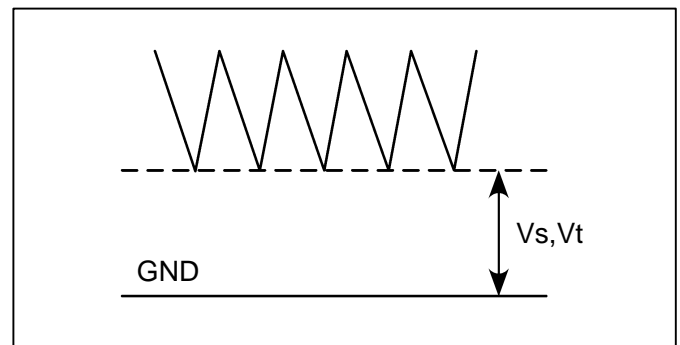
BOARD	RF & SERVO
M.POINT	TP400 (TENSION)
ADJUST	VR400
MODE	EJECT
TAPE	----
M.EQ.	Digital Voltmeter
SPEC.	2.5V \pm 0.1V

1. Monitoring the voltage at TP400, adjust VR400 so that the DC voltage comes in the specification.

5. Start/End Detect Sensitivity Adjustment

BOARD	RF & SERVO
M.POINT	TP601 (Vs: S PHOTO), TP600 (Vt: T PHOTO)
ADJUST	VR601 (Vs: S PHOTO), VR600 (Vt: T PHOTO)
MODE	STOP
TAPE	Tape for Start/End Detection
M.EQ.	Oscilloscope
SPEC.	2.2V \pm 0.6V

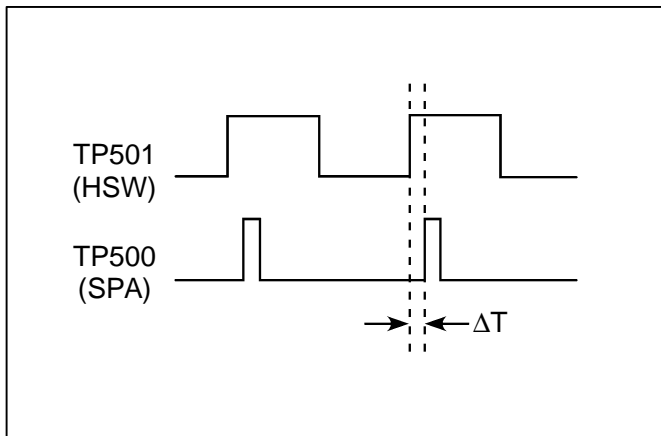
1. Select VTR SERVICE 2/2.. in VTR MAIN menu using JOG, and press JOB button.
2. Select T/S_PHOTO in VTR SERVICE 2/2 menu using JOG, and press JOB button.
3. Set the Tool for Tape Start/End Detect Level Adjustment.
4. Monitoring the waveform at TP601 (S PHOTO), adjust VR601 so that the voltage comes in the specification.
5. Monitoring the waveform at TP600 (T PHOTO), adjust VR600 so that the voltage comes in the specification.



6. PG Shifter Adjustment

BOARD	RF & SERVO
M.POINT	TP501(HSW), TP500 (SPA)
ADJUST	[VRT SERVICE 2/2] PG SHIFT
MODE	STOP
TAPE	Color Bar
M.EQ.	Oscilloscope
SPEC.	$\Delta T = 126.69 \pm 2.5 \text{ms}$

1. Select VTR SERVICE 2/2.. in VTR MAIN menu using JOG, and press JOB button.
2. Select PG SHIFT in VTR SERVICE 2/2 menu using JOG, and press JOB button.
3. Confirm that ΔT is within the specification.



7. Initial Setting

BOARD	
M.POINT	VIDEO OUT
ADJUST	
MODE	
TAPE	
M.EQ.	Color Monitor
SPEC.	

1. Turn on power while simultaneously pressing both ITEM SW and UP SW of I/F tool.
2. Switch on No.1 of SW6300 on MAIN P.C.B and press MAIN menu button twice to enter RAM Editor mode.
3. Basic operation: Select items one by one using PAGE and ITEM buttons and change each setting with UP/DOWN buttons.
4. After selecting address FFE16C and setting its value on the right to "00", turn off power.

RAM Editor		English
FFE16C	55	NTSC
FFE16D	00	E300
FFE16E	00	
FFE16F	00	
FFE170	00	
FFE171	00	
FFE172	00	
FFE173	00	
FFE174	00	
FFE175	00	

8. Model Setting 1

BOARD	
M.POINT	VIDEO OUT
ADJUST	
MODE	
TAPE	
M.EQ.	Color Monitor
SPEC.	

1. Turn on power while simultaneously pressing both ITEM SW and YES SW to enter RAM Editor mode.
2. Select E600 (Japanese NTSC).

RAM Editor		Japanese
FFE100	55	NTSC
FFE101	00	E600
FFE102	00	
FFE103	00	
FFE104	00	
FFE105	00	
FFE106	00	
FFE107	00	
FFE108	00	
FFE109	00	

9. Model Setting 2

BOARD	
M.POINT	VIDEO OUT
ADJUST	
MODE	
TAPE	
M.EQ.	Color Monitor, Vector Scope
SPEC.	714mV \pm 15mV

1. Check to be sure that the 100% color bar signal voltage is within the specification, and if it is out of the specification, adjust it by setting the address to FF21C.
2. Set the address to FFE21, and adjust the color bar signal level so that the chrominance dots comes in each square frame on the vector scope. (Initial value: E0)
3. Set the address to FFE21, and adjust the color bar signal level so that the color burst level becomes 75% on the vector scope.

RAM Editor		Japanese
FFE21E	E0	NTSC
FFE21F	F8	E600
FFE220	00	
FFE221	00	
FFE222	00	
FFE223	00	
FFE224	00	
FFE225	00	
FFE226	00	
FFE227	00	

10. INT Frequency Adjustment

BOARD	MAIN
M.POINT	TP8001
ADJUST	VR8283
MODE	
TAPE	
M.EQ.	Frequency Counter
SPEC.	28.63636MHz \pm 10Hz

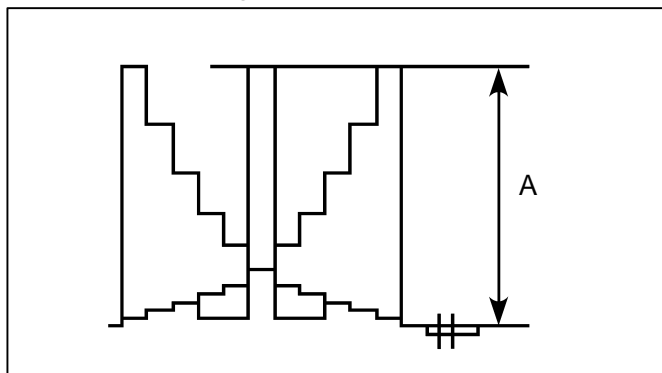
1. Monitoring the frequency at TP8001, adjust VR8283 so that the frequency comes in the specification.

Note) Disconnect the GEN LOCK when adjusting this frequency.

11. G-ch.Input Level Adjustment

BOARD	MAIN
M.POINT	TP201
ADJUST	Lens Iris
OBJ. CHART	2000Lux, 3200°K, Gray Scale
TAPE	----
M.EQ.	Oscilloscope
SPEC.	A = 300mV \pm mV

1. Monitoring the waveform at TP201, adjust Lens Iris so that the voltage level comes in the specification.

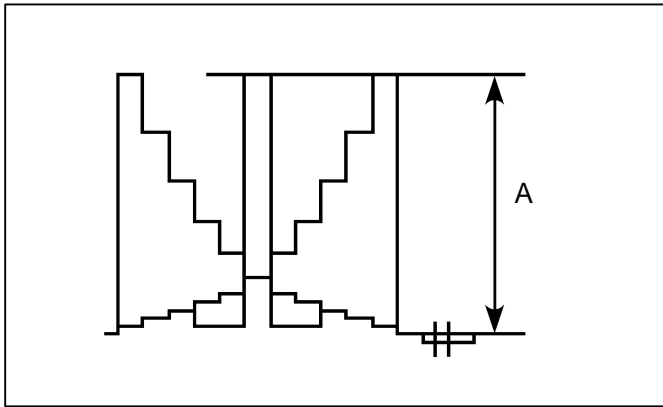


12. Pre-Amp. R/B-ch.Output Level Adjustment

BOARD	PREAMP
M.POINT	TP101, TP301(MAIN P.C.B.)
ADJUST	R155, R555 (PREAMP P.C.B.)
OBJ. CHART	2000Lux, 3200°K, Gray Scale
TAPE	----
M.EQ.	Oscilloscope
SPEC.	A = 300mV \pm 5mV

1. Monitoring the waveform at TP101, adjust R555 so that the voltage level comes in the specification.
2. Monitoring the waveform at TP301, adjust R155 so that the voltage level comes in the specification.

Note) Take note that the order of R, G, B arrangement is reversed each other between PREAMP P.C.B. and MAIN P.C.B.

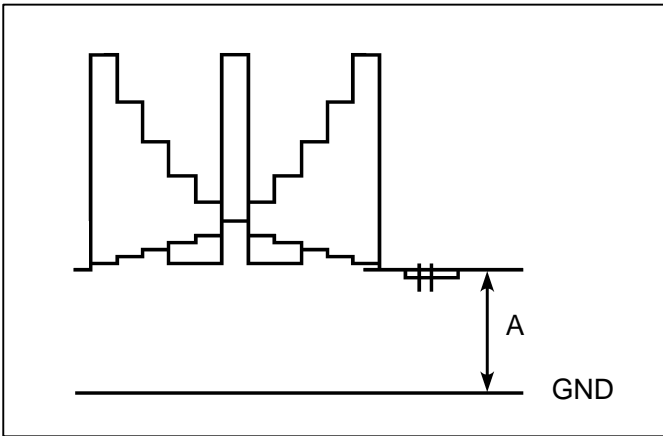


13. Pre-Amp. R/B-ch. Output DC Level Adjustment

BOARD	PREAMP
M.POINT	TP101, TP301(MAIN P.C.B.)
ADJUST	R163, R563 (PREAMP P.C.B.)
OBJ. CHART	2000Lux, 3200°K, Gray Scale
TAPE	----
M.EQ.	Oscilloscope
SPEC.	A = R-ch.: 100mV \pm 5mV, B-ch.: 300mV \pm 5mV

1. Monitoring the waveform at TP101, adjust R563 so that DC level A comes in the specification.
2. Monitoring the waveform at TP301, adjust R163 so that DC level A comes in the specification.
3. According to 3-1-12, monitor the Pre-amp. R/B-ch Output Level, and if the level is out of the specification, adjust it again, then make this DC level adjustment again, and repeat these adjustments until each level comes in its specification.

Note) Take note that the order of R, G, B arrangement is reversed each other between PREAMP P.C.B. and MAIN P.C.B.

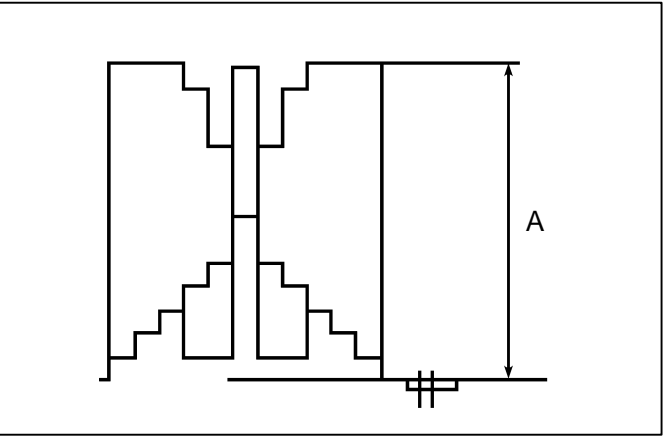


14. White Clip Level Adjustment

BOARD	PREAMP
M.POINT	TP7101(R-ch.), TP7201(G-ch.), TP7301(B-ch.) (MAIN P.C.B.)
ADJUST	R705(R-ch), R701(B-ch), R707(B-ch) (PREAMP P.C.B.)
OBJ. CHART	2000Lux, 3200°K, Gray Scale
TAPE	----
M.EQ.	Oscilloscope
SPEC.	A = 1200mV \pm 20mV

1. Open the Iris to the full.
2. Monitoring the waveform at TP7101(R-ch), adjust R707 so that the level A comes in the specification.
3. Monitoring the waveform at TP7201(G-ch), adjust R701 so that the level A comes in the specification.
4. Monitoring the waveform at TP7301(B-ch), adjust R705 so that the level A comes in the specification.

Note) Take note that the order of R, G, B arrangement is reversed each other between PREAMP P.C.B. and MAIN P.C.B.



15. Auto Adjustment: Color Temperature 3200°K

BOARD	
M.POINT	
ADJUST	
OBJ. CHART	Gray Scale for Auto Adjustment
TAPE	----
M.EQ.	Color Monitor
SPEC.	

1. Set Optical Filter 1.

- Turn ON power while simultaneously pressing ITEM SW, YES SW, and NO SW to enter AUTO ADJUST mode.
- Select Iris Memory in Auto Adjust menu and press YES SW.
- Select Auto Adjust in Auto Adjust menu and press YES SW. Then, the Auto Adjustment starts.

** Auto Adjust **			
Iris Memory	81		
Auto Adjust	Step	00	OK
1.Pedestal	00	00	00
2.Pulcan	00	00	00
3.Gain	00	00	00
4.Gamma	00	00	00
5.Flare	00		
6.S.W	8 0 8 0 7 f 8 1 7 e 8 1 7 c 8 2		
3200K Adjust	00	00	OK
ABC ADJ R±0		AWC ADJ	R±0
ABC ADJ B±0		AWC ADJ	B±0

16. Auto Adjustment: Color Temperature 5600°K

BOARD	
M.POINT	
ADJUST	
OBJ. CHART	Gray Scale for Auto Adjustment
TAPE	----
M.EQ.	Color Monitor
SPEC.	

- Set Optical Filter 3.
- Select 5600°K Adjust in Auto Adjust mode and press YES SW. Then, the Auto Adjustment starts.
- After OK is displayed, turn off power and reset Optical Filter 1.

** Auto Adjust **			
Iris Memory	81		
Auto Adjust	Step	00	OK
1.Pedestal	00	00	00
2.Pulcan	00	00	00
3.Gain	00	00	00
4.Gamma	00	00	00
5.Flare	00	00	00
6.S.W	8 0 8 0 7 f 8 1 7 e 8 1 7 c 8 2		
5600K Adjust	00	00	OK
ABC ADJ R±0		AWC ADJ	R±0
ABC ADJ B±0		AWC ADJ	B±0

17. White Shading Correction

BOARD	MAIN
M.POINT	CAM OUT
ADJUST	
OBJ. CHART	Integrating Sphere (Defocusing)
TAPE	----
M.EQ.	Color Monitor
SPEC.	

- Set Electronic Shutter to 1/250, and adjust Lens Iris so that the CAM OUT peak level comes to 80%.
- Set WHITE BAL SW to A-ch., and perform AWB, ABB, and AWB, successively.
- Make the Lens defocus, and execute the White Shading Correction.
- Confirm that no coloring appears on the monitor screen.

18. White Blemish Compensation

BOARD	
M.POINT	CAM OUT
ADJUST	
OBJ. CHART	Close Lens.
TAPE	----
M.EQ.	Waveform Monitor
SPEC.	

- Assign 30 dB to "H" gain.
- Monitor CAM OUT output and check whether there are any white blemishes. If there are any, turn ON the power switch while pressing ITEM ON button on I/F P.C.B. Then, White Blemish Compensation menu screen appears.
- Press NO/BAR button on I/F P.C.B. Then, the Cursor display appears.
- By moving the Cursor, execute compensation of up to three white blemishes in decreasing order of the blemish size.
- By pressing NO/BAR button on I/F P.C.B., display Menu screen, and select END.
- Set the camera gain to 0 dB, and confirm that there is no white blemishes that exceed 5% over the screen.

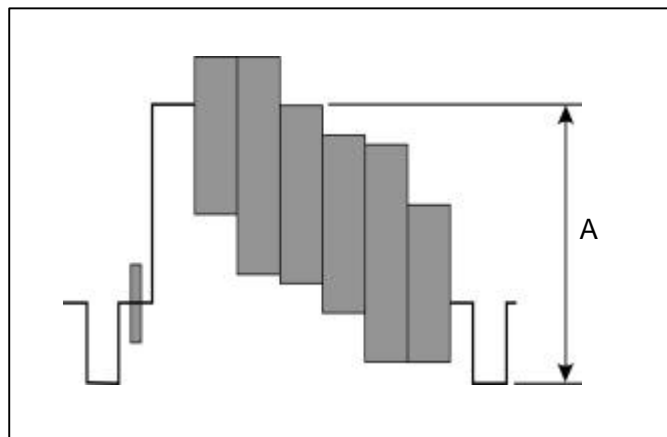
19. Video Out Level Adjustment (1)

BOARD	MAIN
M.POINT	VIDEO OUT (75Ω termination)
ADJUST	EVR [SERVICE MENU]
MODE	PLAY
TAPE	Alignment Tape (Color Bar)
M.EQ.	Waveform Monitor
SPEC.	A=1.0±0.01Vp-p

- Set the EVR display to:
[SERVICE] menu
EVR DATA..
D/A ADDRESS : 07

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7			
1	→	▲	<	EVR	DATA	>														
2	(	01	)	x	x	(	02	)	x	x	(	03	)	x	x	(	04	)	x	x
3	(	05	)	x	x	(	06	)	x	x	(	07	)	x	x	(	08	)	x	x
4	(	09	)	x	x	(	0A	)	x	x	(	0B	)	x	x	(	0C	)	x	x
5	(	0D	)	x	x	(	0E	)	x	x	(	0F	)	x	x	(	10	)	x	x
6	(	11	)	x	x	(	12	)	x	x	(	13	)	x	x	(	14	)	x	x
7	(	15	)	x	x	(	16	)	x	x	(	17	)	x	x	(	18	)	x	x
8	(	19	)	x	x	(	1A	)	x	x	(	1B	)	x	x	(	1C	)	x	x
9	(	1D	)	x	x	(	1E	)	x	x	(	1F	)	x	x	(	20	)	x	x
0	(	21	)	x	x	(	22	)	x	x	(	23	)	x	x	(	24	)	x	x
1																				
2																				
3																				

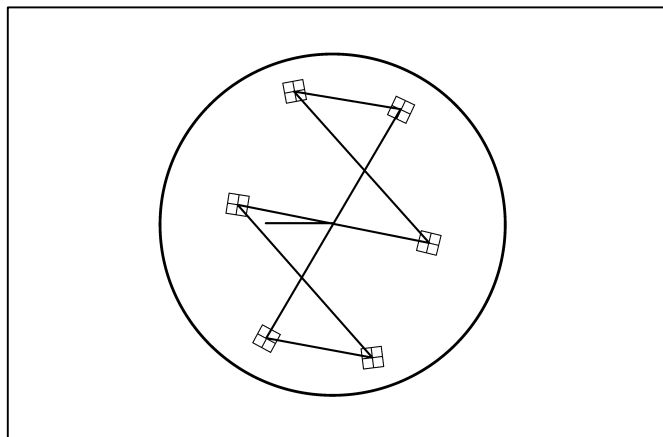
- Playback the Alignment Tape and adjust D/A DATA in the menu so that the VIDEO OUT level comes in the specification.



20. Video Out Level Adjustment (2)

BOARD	MAIN
M.POINT	VIDEO OUT (75Ω termination)
ADJUST	EVR [SERVICE MENU]
MODE	PLAY
TAPE	Alignment Tape (Color Bar)
M.EQ.	Vector Scope
SPEC.	See the diagram below.

- Set the EVR display to:
[SERVICE] menu
EVR DATA..
D/A ADDRESS : 06
- Playback the Alignment Tape and adjust D/A DATA in the menu so that all the VIDEO OUT chroma levels come in each square frame on the Vector Scope.
Note) Set the Vector Scope to BARS (75%) and SETUP (7.5TRE).



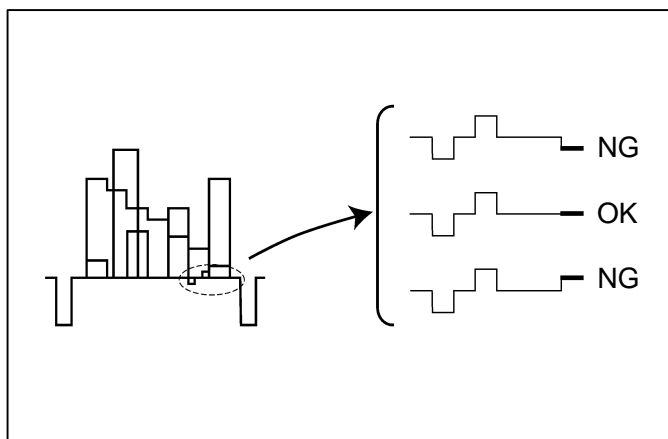
21. Y A/D Clamp Level Adjustment

BOARD	MAIN
M.POINT	VIDEO OUT (75Ω termination)
ADJUST	EVR [SERVICE MENU]
MODE	EE
TAPE	----
M.EQ.	Waveform Monitor
SPEC.	See the diagram below.

- SW setting : [OUTPUT]
- Set the EVR display to:
[SERVICE] menu
EVR DATA..
D/A ADDRESS : 0B

	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7										
1	→	▲	<	EVR	DATA	>																					
2	(	0	1	)	x	x	(	0	2	)	x	x	(	0	3	)	x	x	(	0	4	)	x	x			
3	(	0	5	)	x	x	(	0	6	)	x	x	(	0	7	)	x	x	(	0	8	)	x	x			
4	(	0	9	)	x	x	(	0	A	)	x	x	(	0	B	)	x	x	(	0	C	)	x	x			
5	(	0	D	)	x	x	(	0	E	)	x	x	(	0	F	)	x	x	(	1	0	)	x	x			
6	(	1	1	)	x	x	(	1	2	)	x	x	(	1	3	)	x	x	(	1	4	)	x	x			
7	(	1	5	)	x	x	(	1	6	)	x	x	(	1	7	)	x	x	(	1	8	)	x	x			
8	(	1	9	)	x	x	(	1	A	)	x	x	(	1	B	)	x	x	(	1	C	)	x	x			
9	(	1	D	)	x	x	(	1	E	)	x	x	(	1	F	)	x	x	(	2	0	)	x	x			
0	(	2	1	)	x	x	(	2	2	)	x	x	(	2	3	)	x	x	(	2	4	)	x	x			
1																											
2	D / A						ADDRESS	:																			
3	D / A						DATA	:																			

3. Adjust D/A DATA in the menu so that the pedestal step difference of Y OUT disappears.

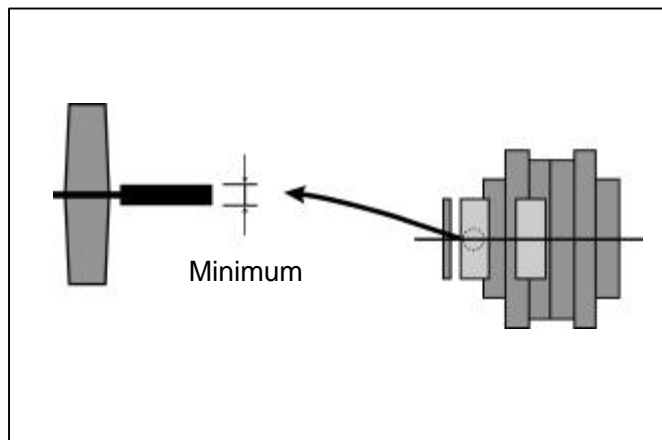


22. PB, PR Clamp Level Adjustment

BOARD	MAIN
M.POINT	VIDEO OUT (75Ω termination)
ADJUST	EVR [SERVICE MENU]
MODE	EE
TAPE	----
M.EQ.	Waveform Monitor
SPEC.	See the diagram below.

1. SW setting : [OUTPUT]
2. Set the EVR display to:
[SERVICE] menu
EVR DATA..
D/A ADDRESS : 09, 0A
3. Alternately adjust D/A ADDRESS 09 and 0A in the menu so that the carrier unbalance on the video signal WHITE level at the VIDEO OUT comes to the minimum.

Note) Set the FILTER of the Waveform Monitor to CHROMA.



23. Real-Time Clock Confirmation

BOARD	MAIN
M.POINT	TP6100(RTC CLK)
ADJUST	VC6100
MODE	STOP
TAPE	----
M.EQ.	Frequency Counter
SPEC.	2.048000kHz ± 0.000020kHz

1. Monitor the frequency at TP6100 to be in the specification.
2. If the frequency is out of the specification, adjust VC6100.

Note) Measure the frequency at the time when the MAIN P.C.B. is cool.

24. PB Level Adjustment

BOARD	VTR MAIN (AUDIO)
M.POINT	AUDIO OUT (CH1/CH2) RCA Pin-Jack on the left
ADJUST	VR4400(CH1), VR4401(CH2)
MODE	PLAY
TAPE	Alignment Tape (Color Bar)
M.EQ.	Audio Analyzer
SPEC.	-6dBu±0.5dBu

1. Playback the Alignment Tape and adjust VR4400(CH1) and VR4401(CH2) so that the audio output level comes in the specification.

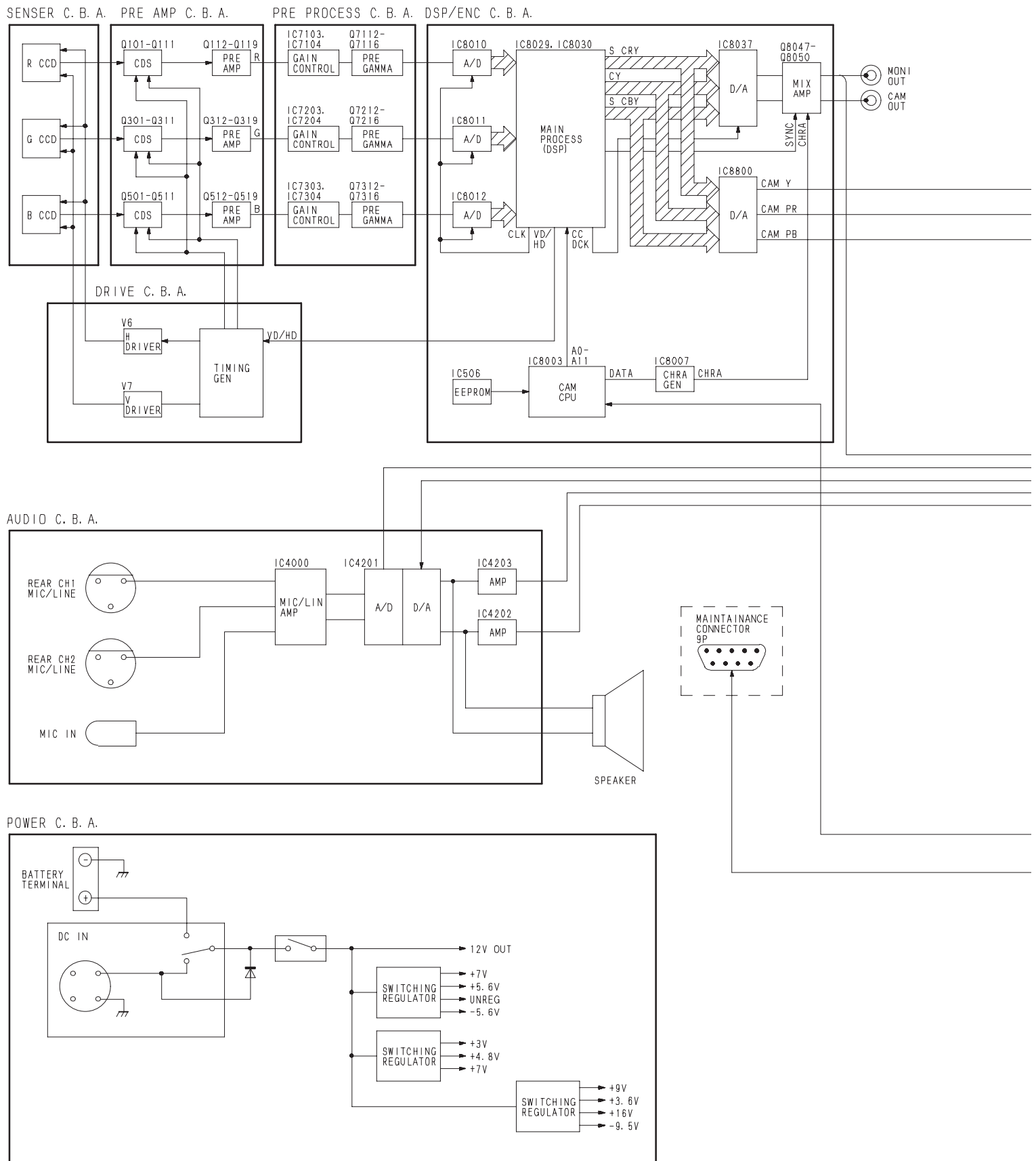
SECTION 5

BLOCK DIAGRAM

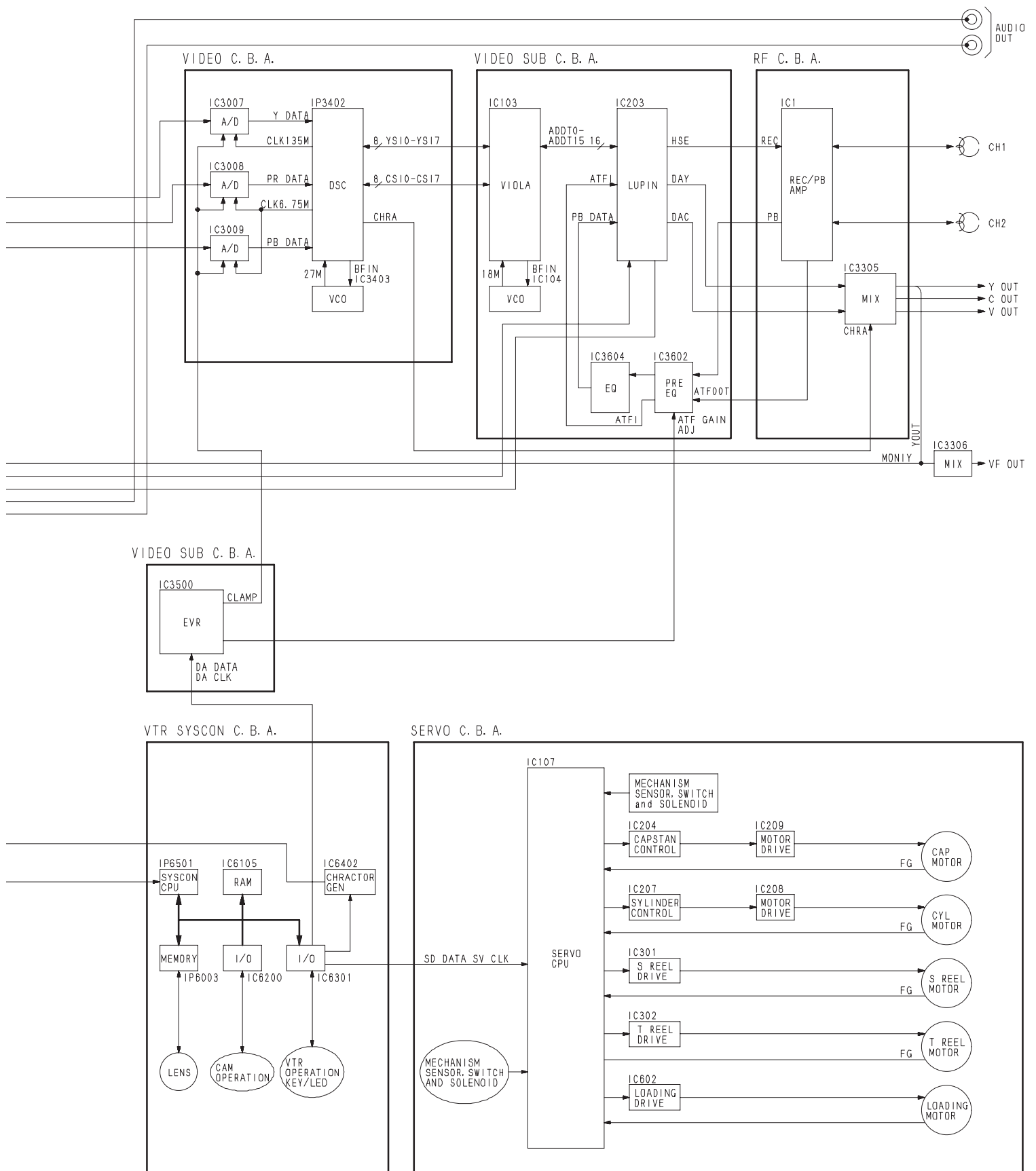
CONTENTS

OVERALL BLOCK DIAGRAM.....	BLK-1
PREAMP/DRIVE BLOCK DIAGRAM.....	BLK-3
MAIN (PRE PROCESS) BLOCK DIAGRAM.....	BLK-5
MAIN (DSP/ENCODER) BLOCK DIAGRAM	BLK-6
MAIN (VIDEO,VTR SUB,H/R AMP) BLOCK DIAGRAM.....	BLK-8
MAIN (AUDIO) BLOCK DIAGRAM.....	BLK-10
RF & SERVO BLOCK DIAGRAM.....	BLK-12
MAIN (VTR SYSCON) BLOCK DIAGRAM.....	BLK-14
POWER BLOCK DIAGRAM	BLK-16

OVER ALL BLOCK DIAGRAM

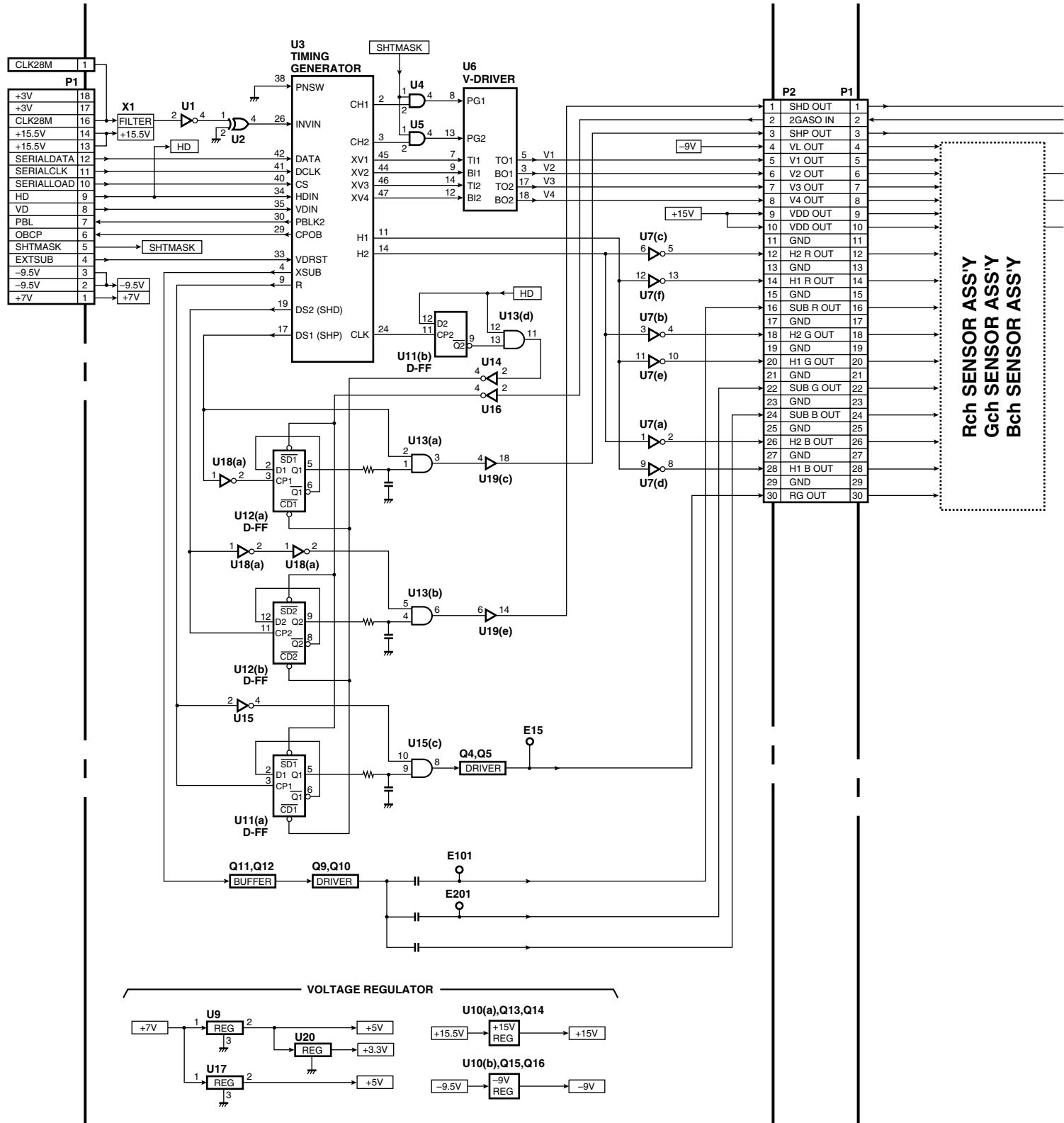


OVER ALL BLOCK DIAGRAM

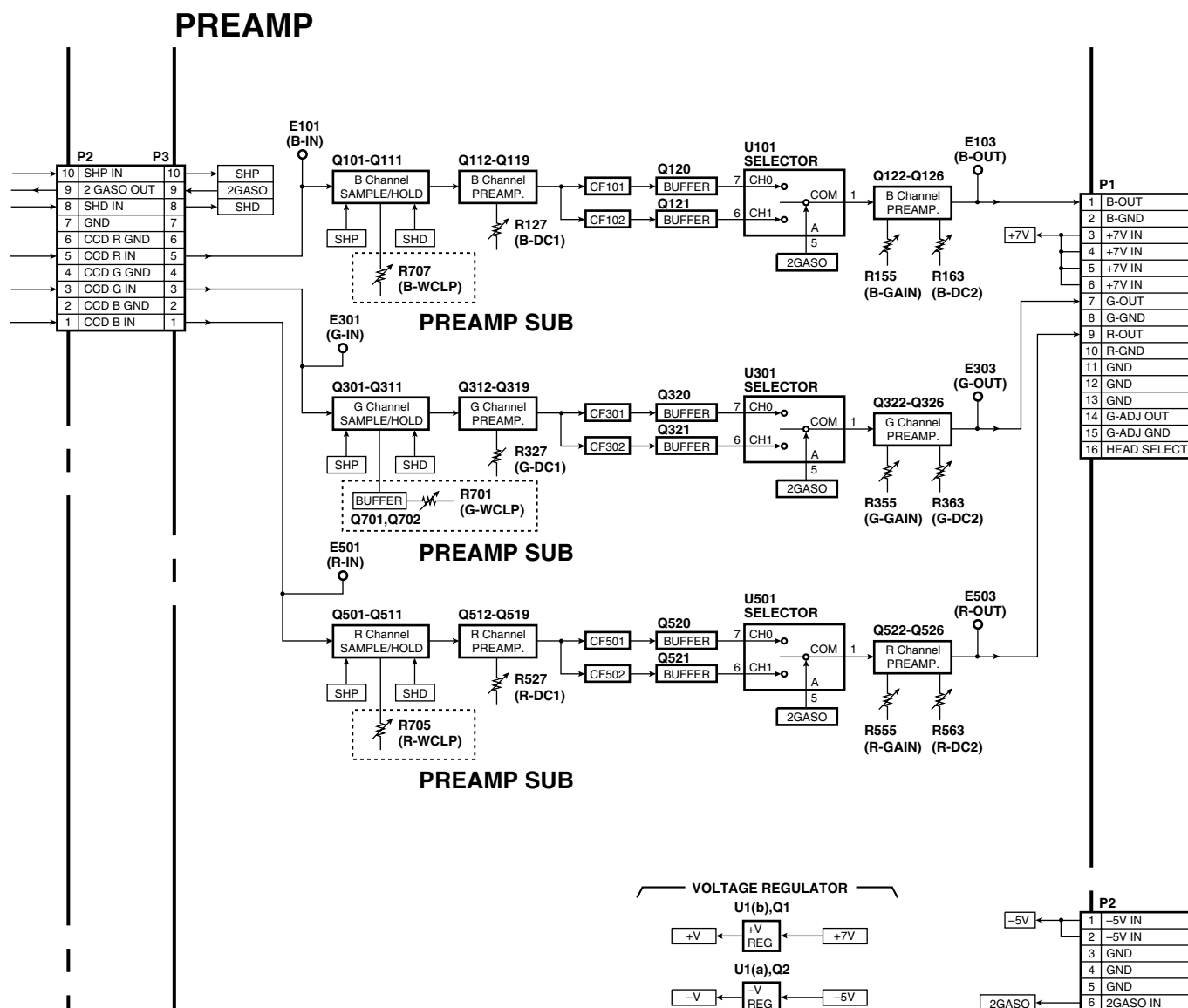


PREAMP/DRIVE BLOCK DIAGRAM

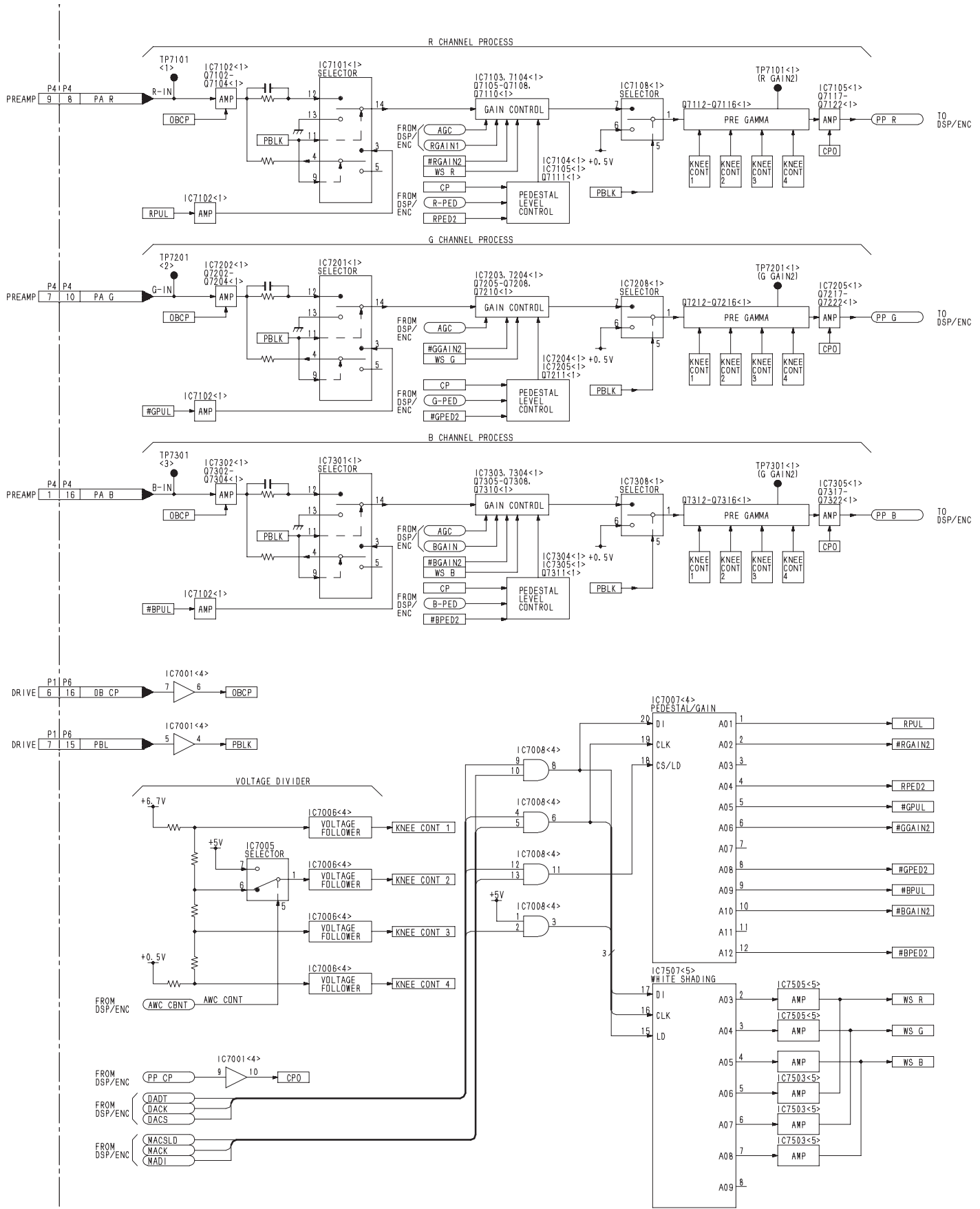
DRIVE



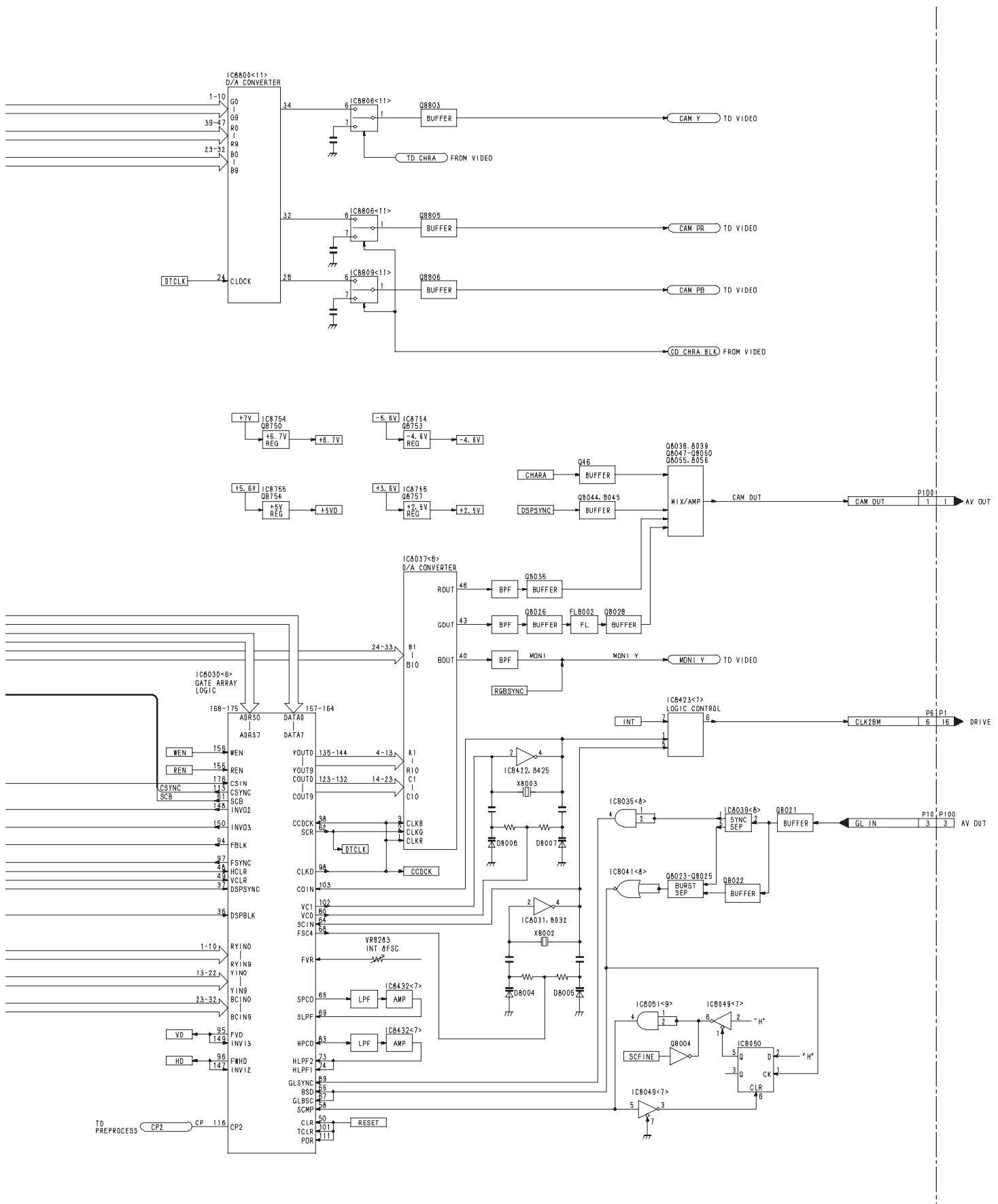
PREAMP/DRIVE BLOCK DIAGRAM



MAIN (PRE PROCESS) BLOCK DIAGRAM



MAIN (DSP/ENCODER) BLOCK DIAGRAM



VIDEO

IP3402<14>
DSC

FROM DSP/ENC CAM Y → Q3003 → BUFFER → LPF → FL3001 → Q3004 [C3003<12>] AMP → CLAMP → Q3012, 3009 [C3010<12>] → Y A/D → YIN0 - YIN7 → Y OUT0 - Y OUT7 → YS10 - YS17 52A-59A

FROM DSP/ENC CAM PB → Q3001 → BUFFER → LPF → L3001, 3003 C3013, 3015 C3017, 3019, 3021 → Q3007 [C3004<12>] AMP → CLAMP → Q3013, 3010 [C3011<12>] → PB A/D → PBIN0 - PBIN7 → CS10 - CS17 52B-59A

FROM DSP/ENC CAM PR → Q3002 → BUFFER → LPF → L3002, 3004 C3014, 3016 C3020, 3022 → Q3008 [C3005<12>] AMP → CLAMP → Q3014, 3011 [C3012<12>] → PR A/D → PRIN0 - PRIN7 → INV 49B

FROM VTR SYSCON → SYS CHRA, SYS CHRA BCK → SYS CHRA, SYS CHRA BCK

FROM VTR SYSCON → PLD TDI, PLD TMS, PLD TCK → TDI, TMS, TCK

IC3403<14> VCO → 27M CLK, 27M BFIN → CK27 IN, COMP

IC3500<15> EVR → DA DATA, DA CLK, DA LD → YCLAMP DC, PB CLAMP DC, PR CLAMP DC

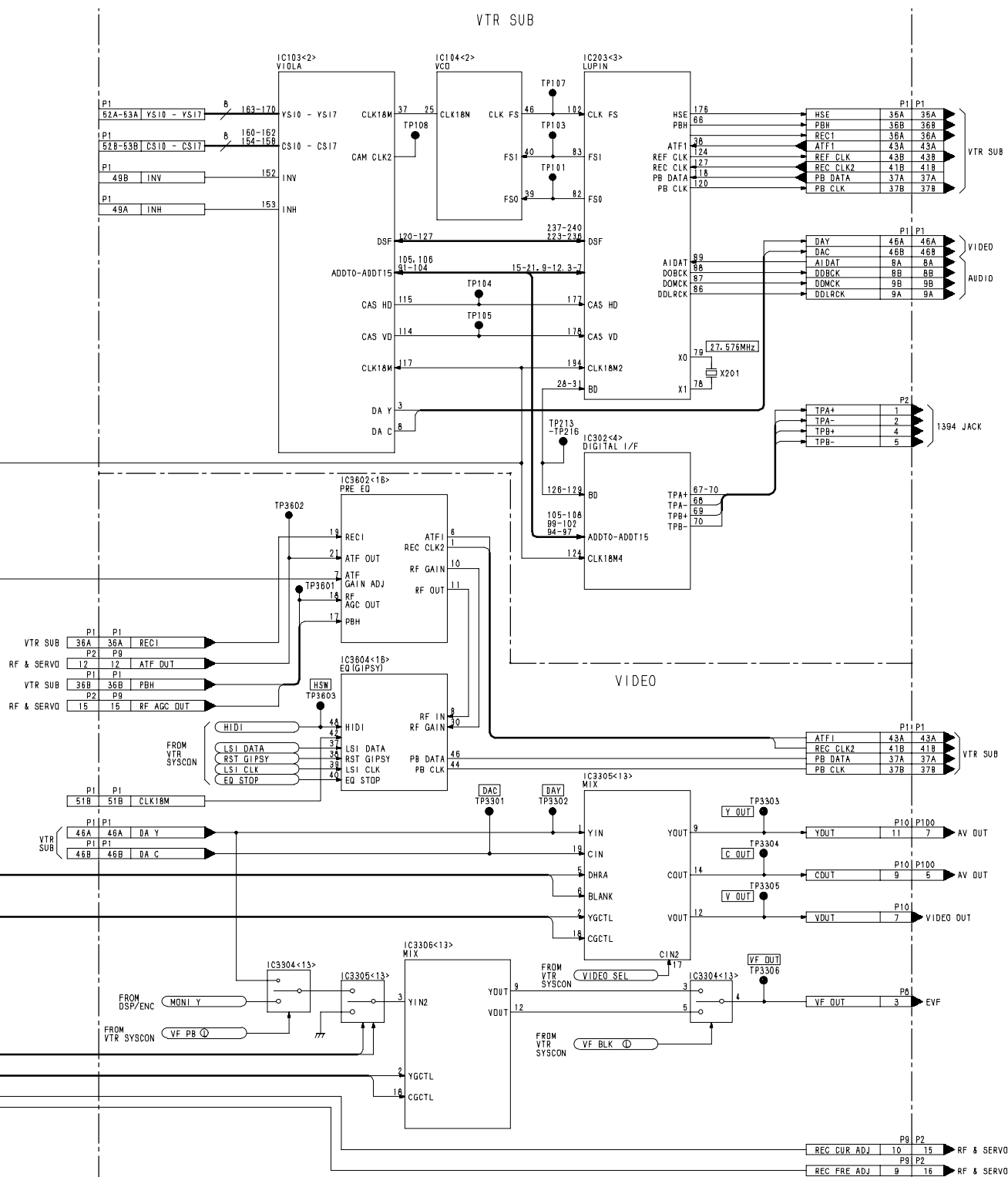
IC3501<15> → REC CUR ADJ, REC FRE ADJ

H/R AMP

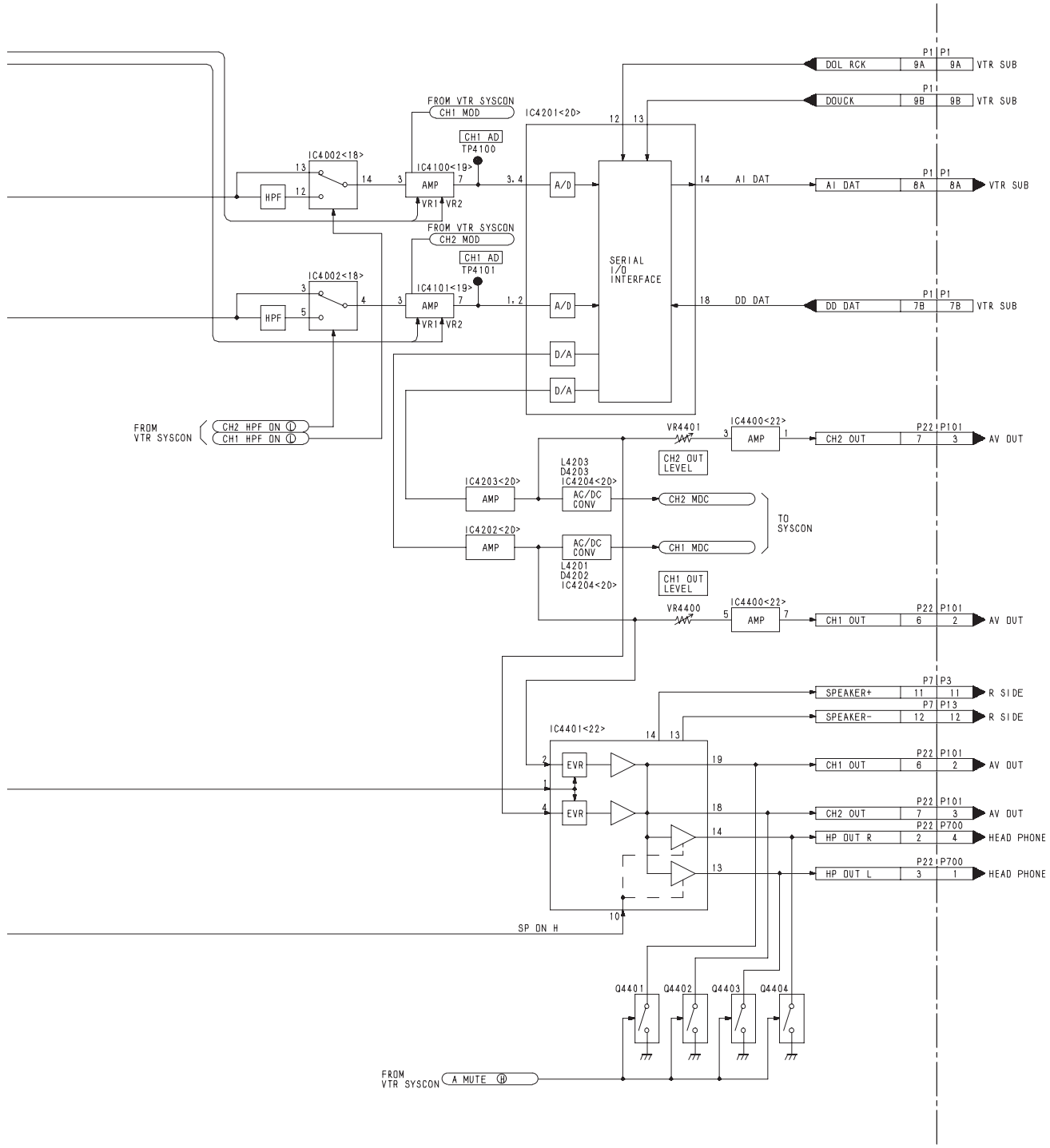
VIDEO

VIDEO HEAD

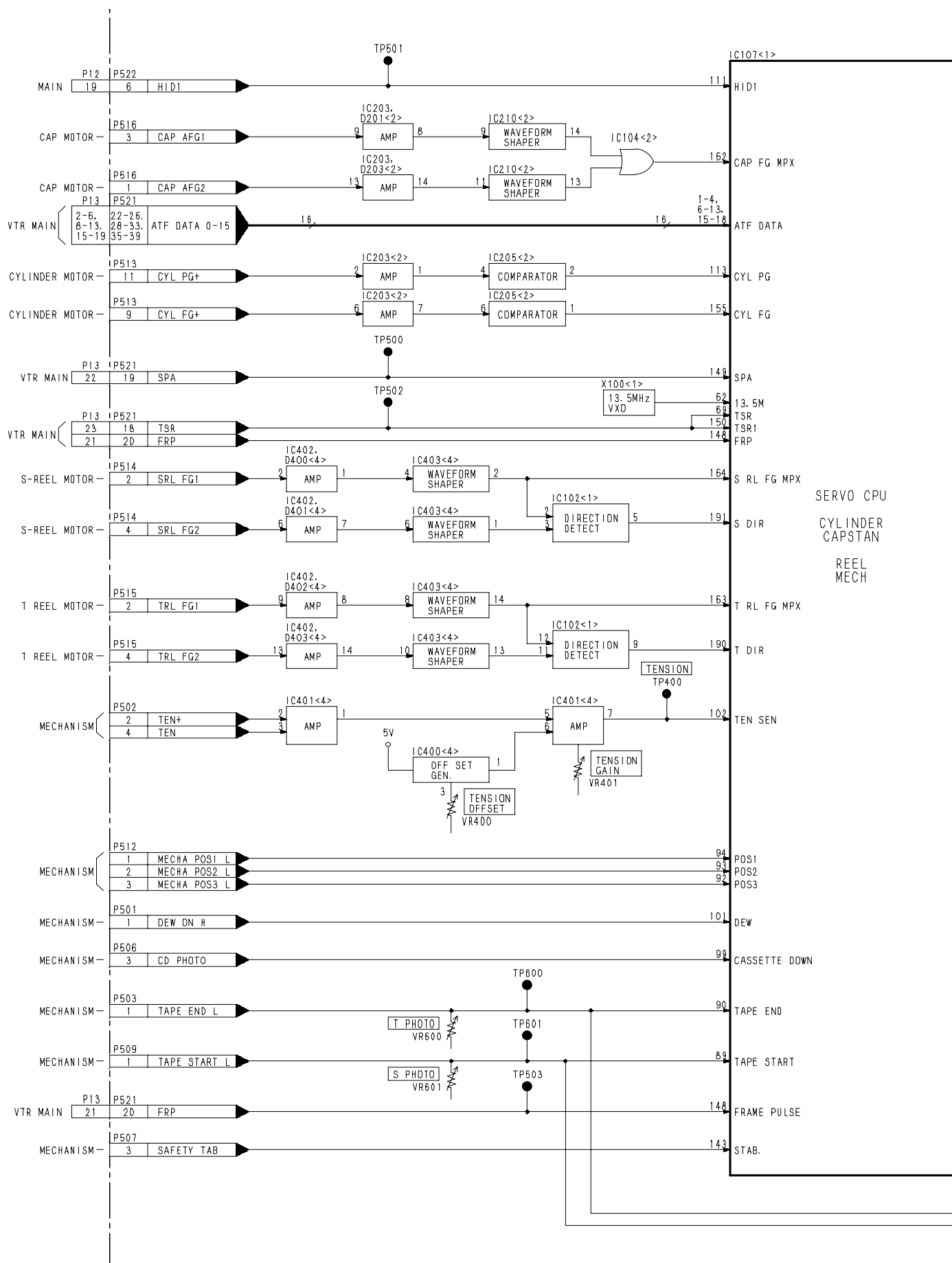
MAIN (VIDEO,VTR,SUB,H/R,AMP) BLOCK DIAGRAM



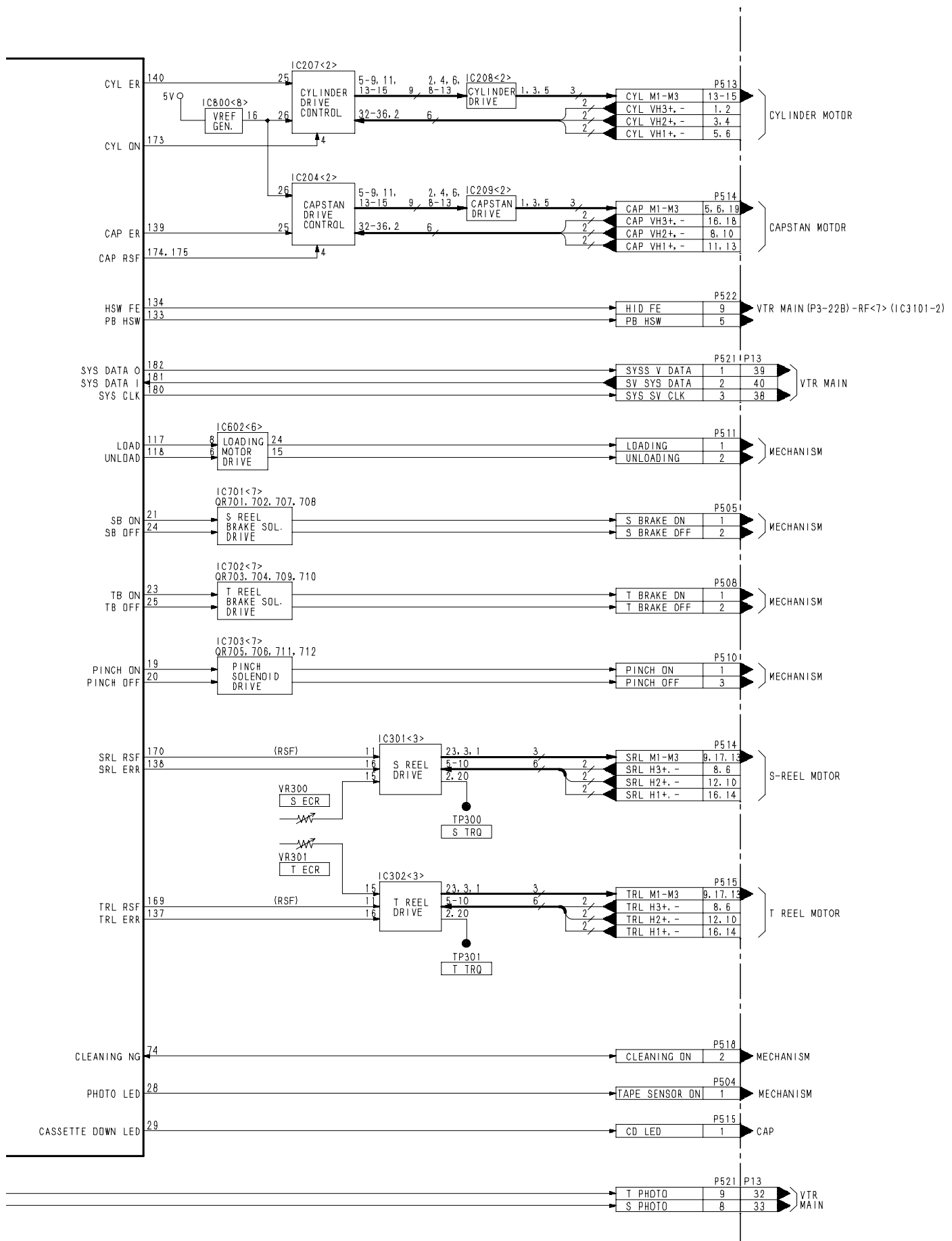
MAIN (AUDIO) BLOCK DIAGRAM



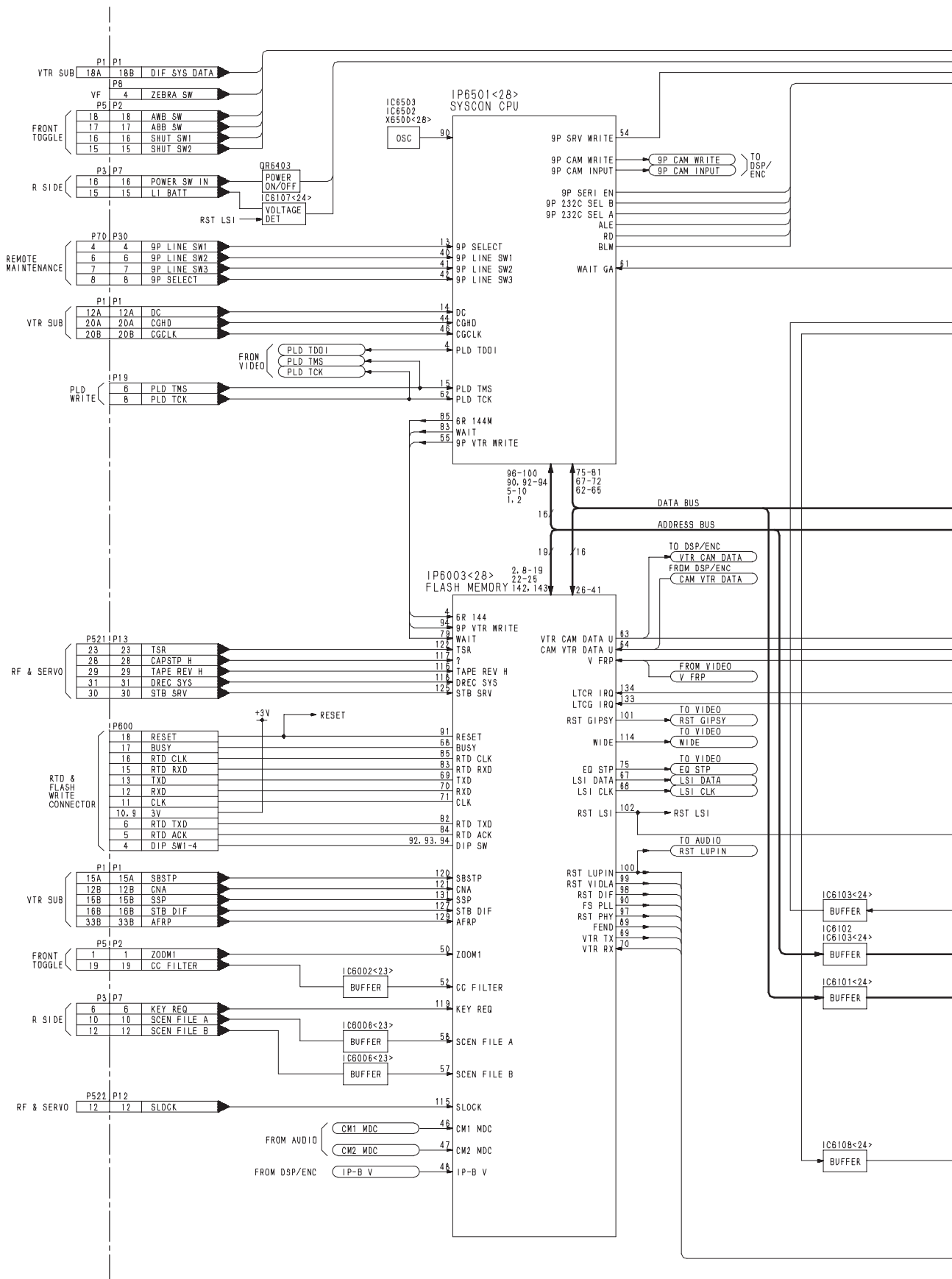
MAIN (RF&SERVO) BLOCK DIAGRAM



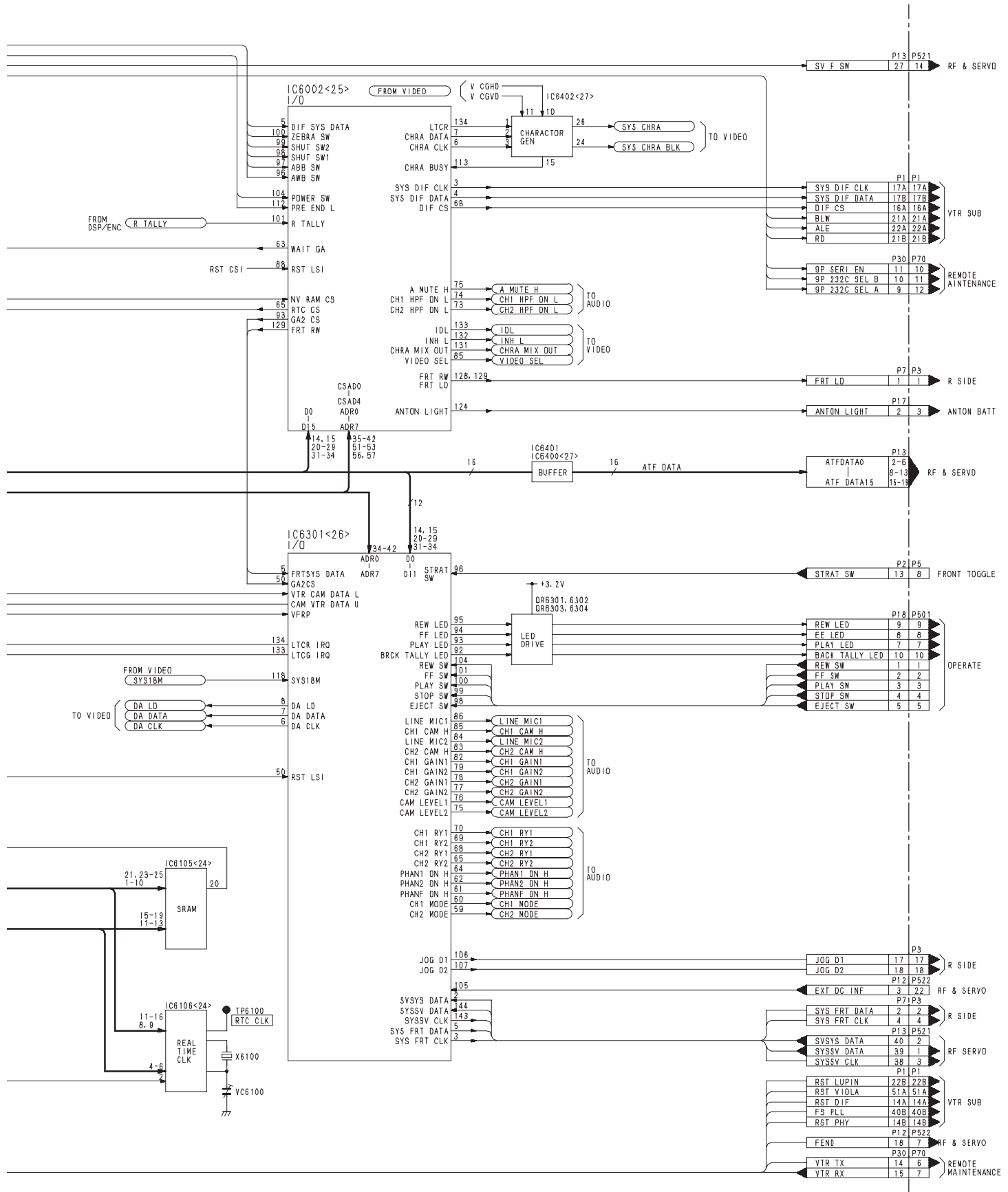
MAIN (RF&SERVO) BLOCK DIAGRAM



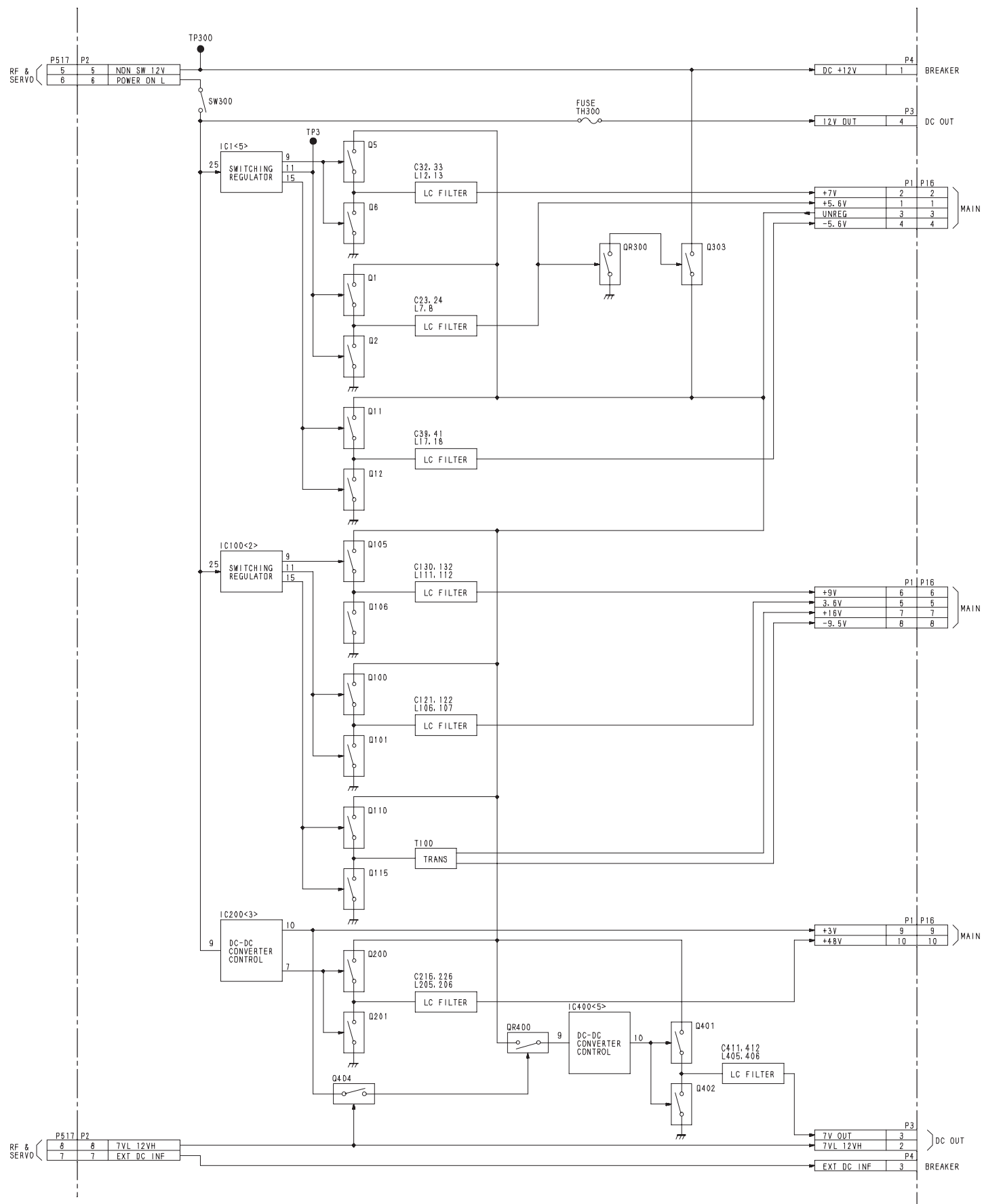
MAIN (VTR SYSCON) BLOCK DIAGRAM



MAIN (VTR SYSCON) BLOCK DIAGRAM

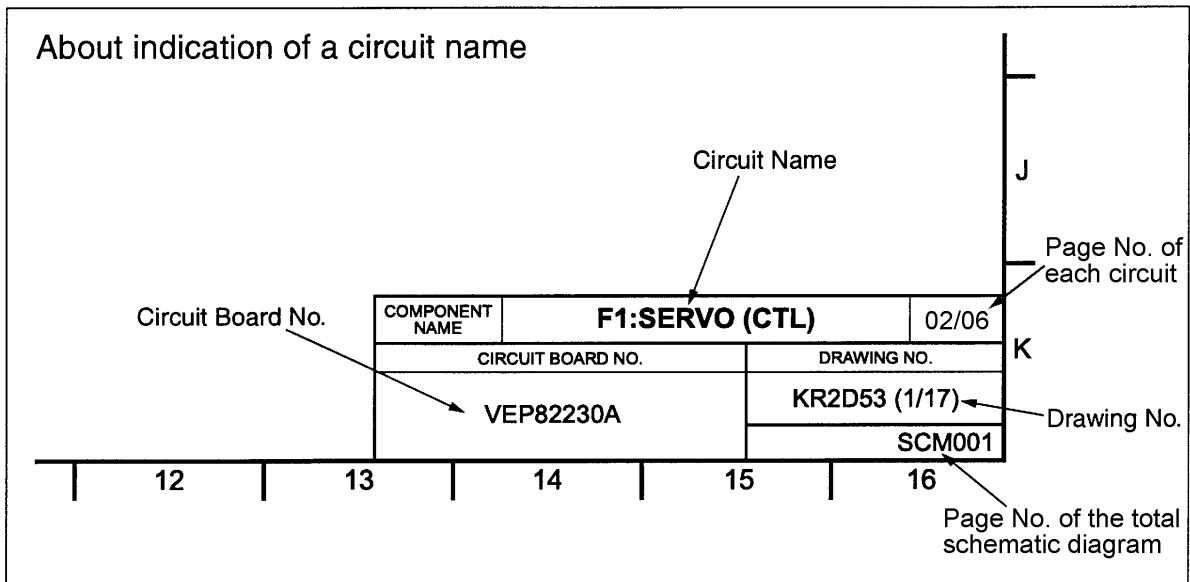


POWER BLOCK DIAGRAM



SECTION 6

SCHEMATIC DIAGRAMS




NOTE:

BE SURE TO MAKE YOUR ORDERS OF REPLACEMENT PARTS ACCORDING TO PARTS LIST, SECTION8

CAUTION

THE [] MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

CONTENTS

MAIN

PREPROCESS (1/5)	SCM1
PREPROCESS (2/5)	SCM2
PREPROCESS (3/5)	SCM3
PREPROCESS (4/5)	SCM4
PREPROCESS (5/5)	SCM5
DSP_ENC (1/6)	SCM6
DSP_ENC (2/6)	SCM7
DSP_ENC (3/6)	SCM8
DSP_ENC (4/6)	SCM9
DSP_ENC (5/6)	SCM10
DSP_ENC (6/6)	SCM11
VIDEO_ADC	SCM12
VIDEO_OUT	SCM13
VIDEO_PLD	SCM14
VIDEO_EVR	SCM15
VIDEO_GIPSY	SCM16
VIDEO_POWER&BUFF	SCM17
AUDIO	SCM18
AUDIO AGC	SCM19
AUDIO D/A	SCM20
AUDIO CUE	SCM21
AUDIO OUT	SCM22
VTR_SYSCON (1/6)	SCM23
VTR_SYSCON (2/6)	SCM24
VTR_SYSCON (3/6)	SCM25
VTR_SYSCON (4/6)	SCM26
VTR_SYSCON (5/6)	SCM27
VTR_SYSCON (6/6)	SCM28
CONNECTOR1	SCM29
CONNECTOR2	SCM30

RF&SERVO

SERVO uCOM	SCM31
CYL/CAP DRIVE	SCM32
REEL DRIVE	SCM33
REEL FG/TENSION AMP	SCM34
CONNECTER	SCM35
MECA SW/LOADING DRIVE	SCM36
SOL DRIVE	SCM37
SW REG	SCM38
SOL POWER	SCM39
CTL AMP	SCM40
H/R AMP	SCM41

VTR_SUB

CONNECTOR	SCM42
VIOLA	SCM43
LUPIN	SCM44
PINE++	SCM45
RF PLL	SCM46

PREAMP

PREAMP	SCM47
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POWER

POWER (1/5)	SCM48
POWER (2/5)	SCM49
POWER (3/5)	SCM50
POWER (4/5)	SCM51
POWER (5/5)	SCM52

REAR JACK

REAR JACK	SCM53
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AV_OUT

AV_OUT	SCM54
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1394_JACK

1394_JACK	SCM54
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R_SIDE

R_SIDE	SCM55
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SCENE_FILE

SCENE_FILE	SCM56
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AUTO_IRIS

AUTO_IRIS	SCM57
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LED

LED	SCM57
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TOGGLE

TOGGLE	SCM58
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FRONT TOGGLE

FRONT TOGGLE	SCM59
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REMOTE MAINTENANCE

REMOTE MAINTENANCE	SCM60
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MENU_JOG

MENU_JOG	SCM61
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POWER_SW

POWER_SW	SCM61
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HEAD PHONE

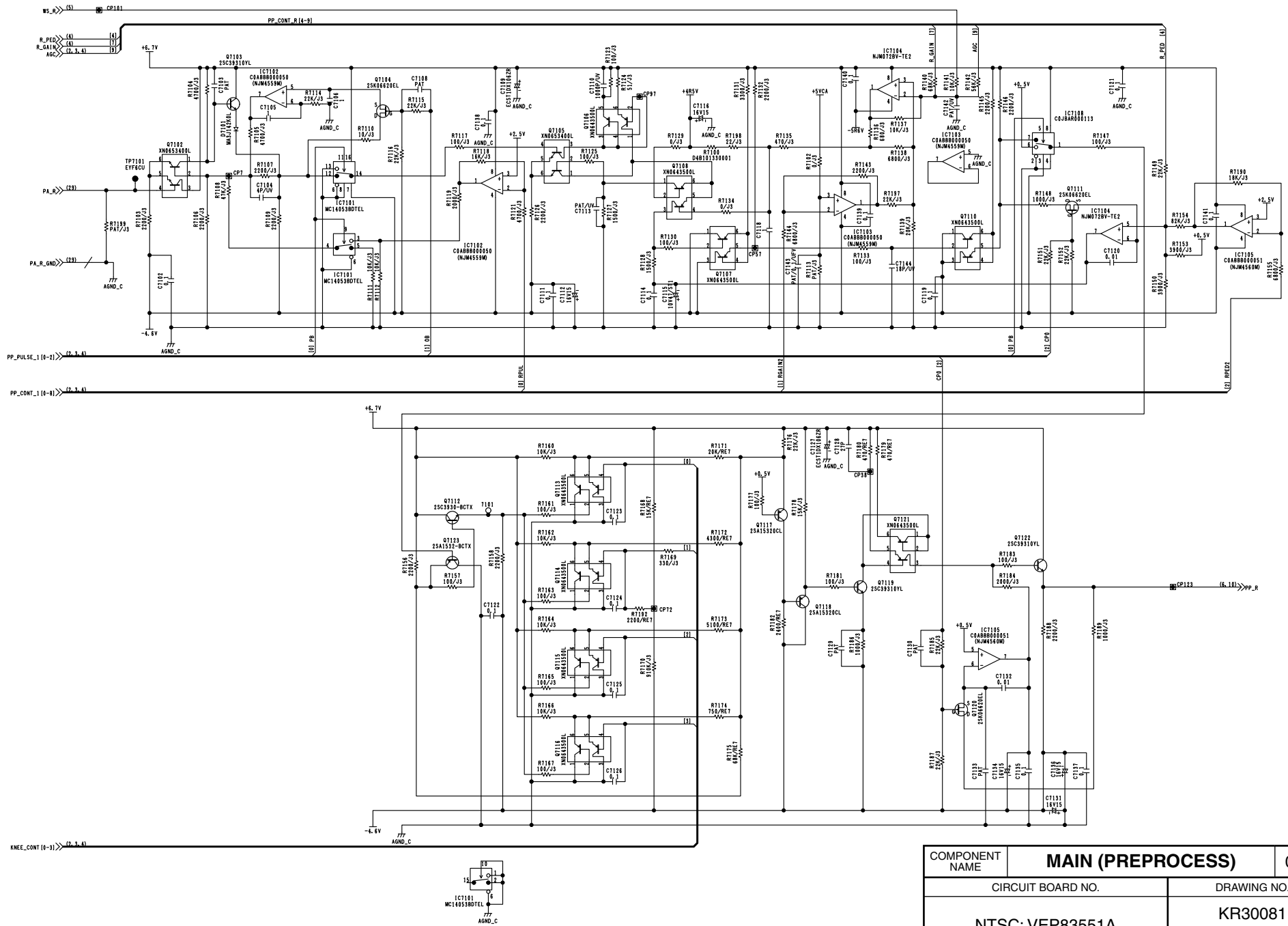
HEAD PHONE	SCM62
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FRONT_MIC

FRONT_MIC	SCM62
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DRIVE

DRIVE	SCM63
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A

B

C

D

E

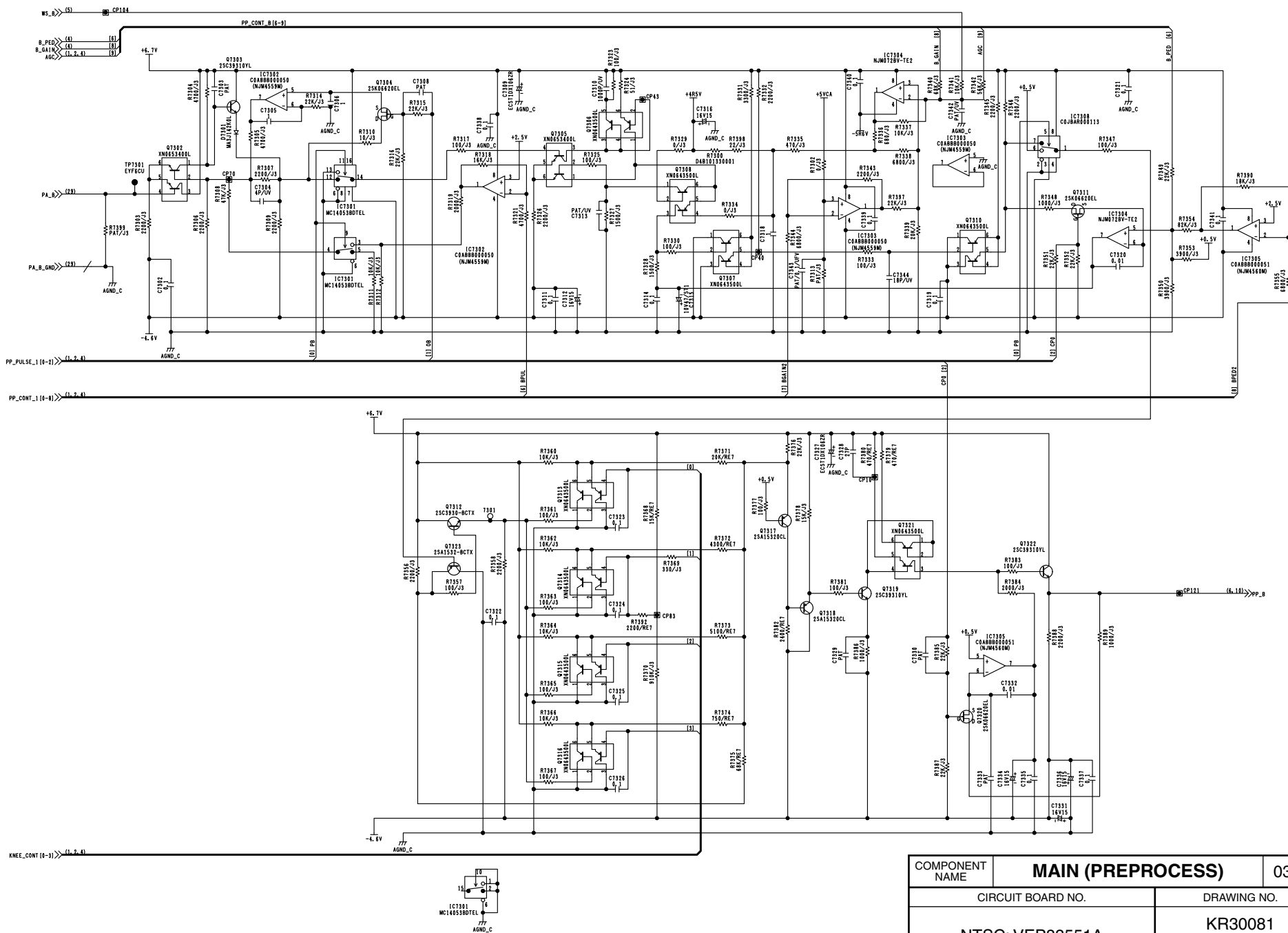
F

G

H

I

J



A

B

C

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G

H

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J

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10

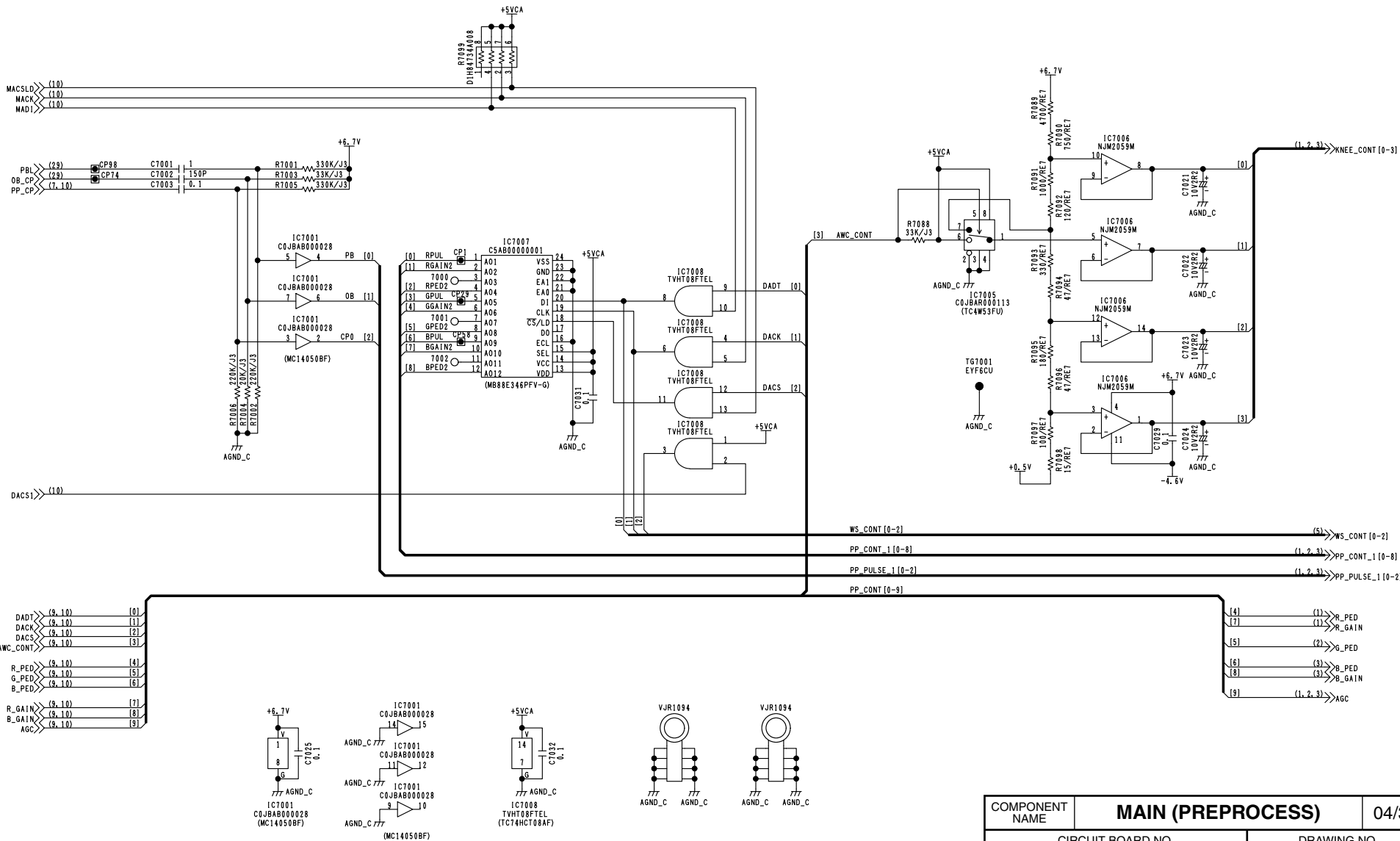
11

12

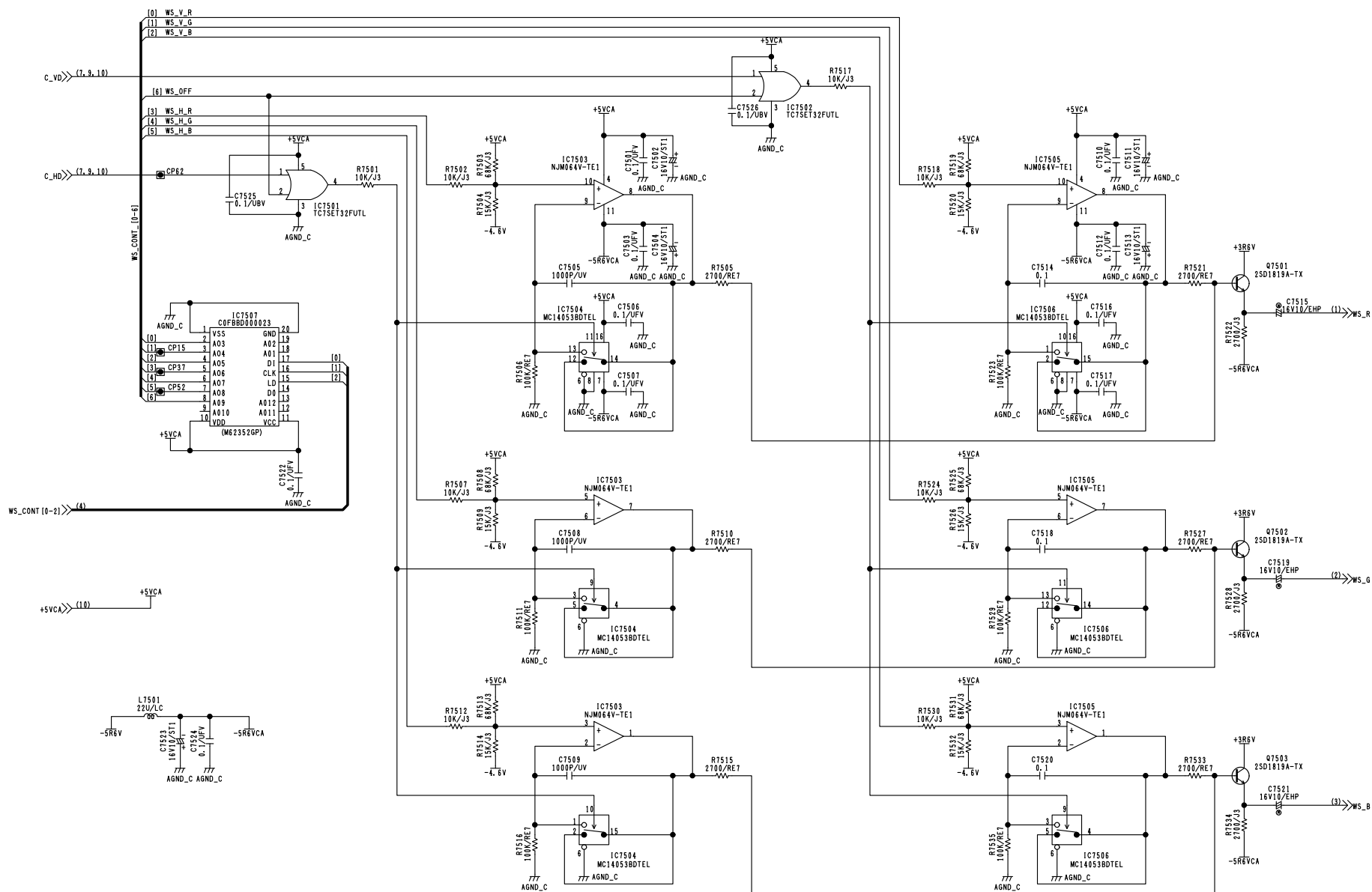
13

14

15



COMPONENT NAME	MAIN (PREPROCESS)	04/30
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP83551A	KR30081	
	SCM004	



COMPONENT NAME	MAIN (PREPROCESS)		05/30
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP83551A		KR30081	
		SCM005	

A

B

C

D

E

F

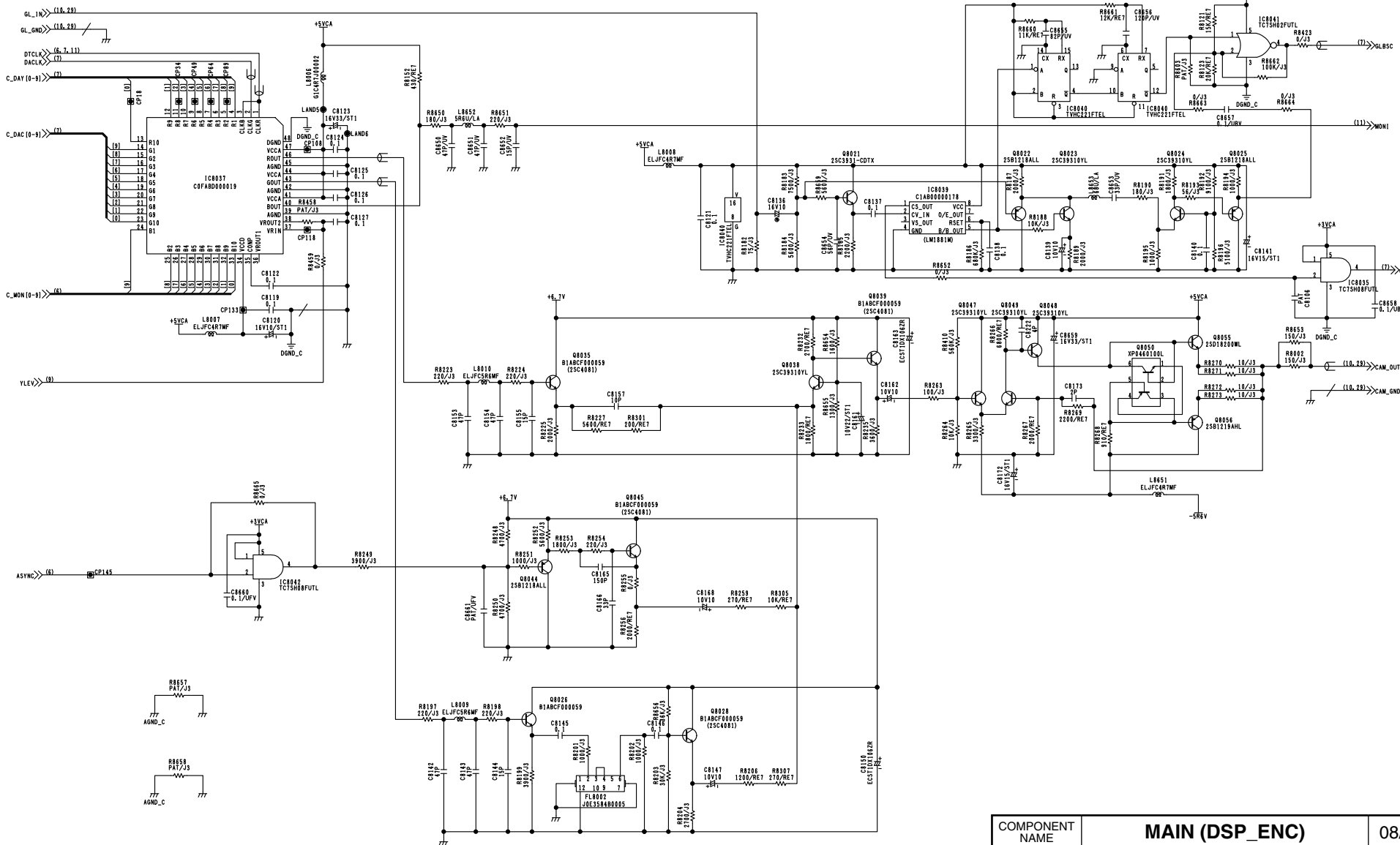
G

H

I

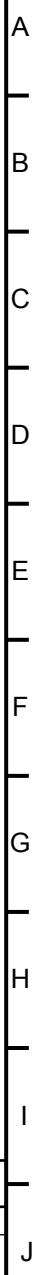
J

J



	T, P	E
C8166	F1H1H330A231	F1H1H330A231
	T, P	E
FL8001	J0HABY00003	J0HABY00004
FL8002	J0E35400005	J0E443400005

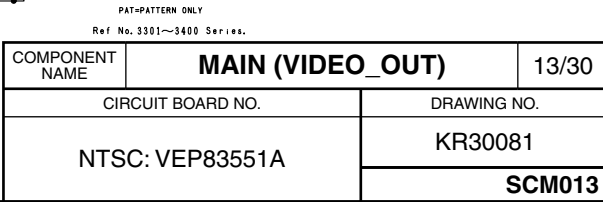
COMPONENT NAME	MAIN (DSP_ENC)	08/30
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP83551A	KR30081	
	SCM008	

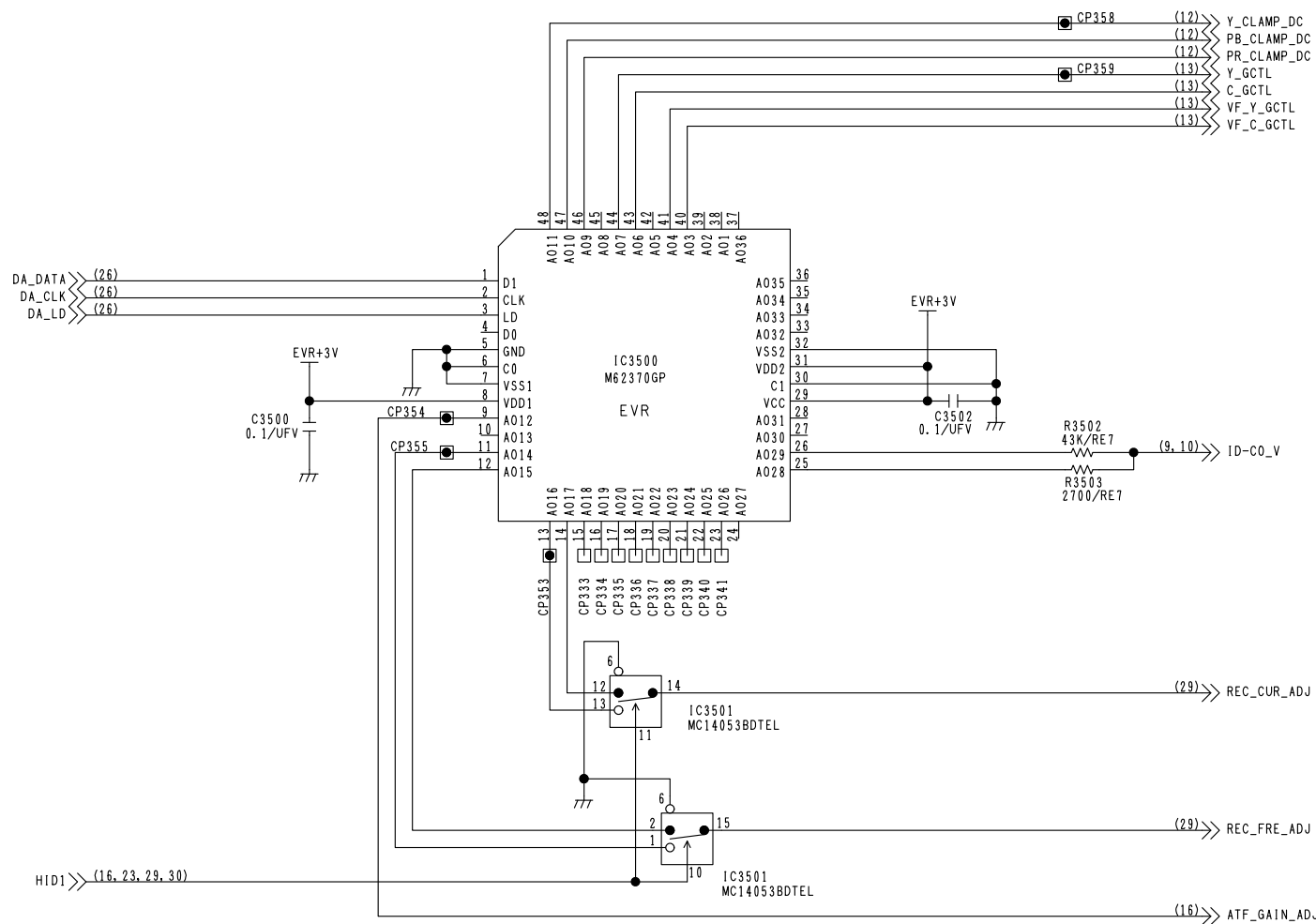


COMPONENT NAME	MAIN (DSP_ENC)	09/30
CIRCUIT BOARD NO.		DRAWING NO.
NTSC: VEP83551A		KR30081
		SCM009

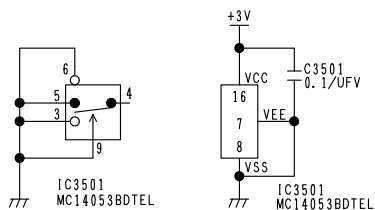


COMPONENT NAME	MAIN (VIDEO_ADC)		12/30
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP83551A		KR30081	
		SCM012	



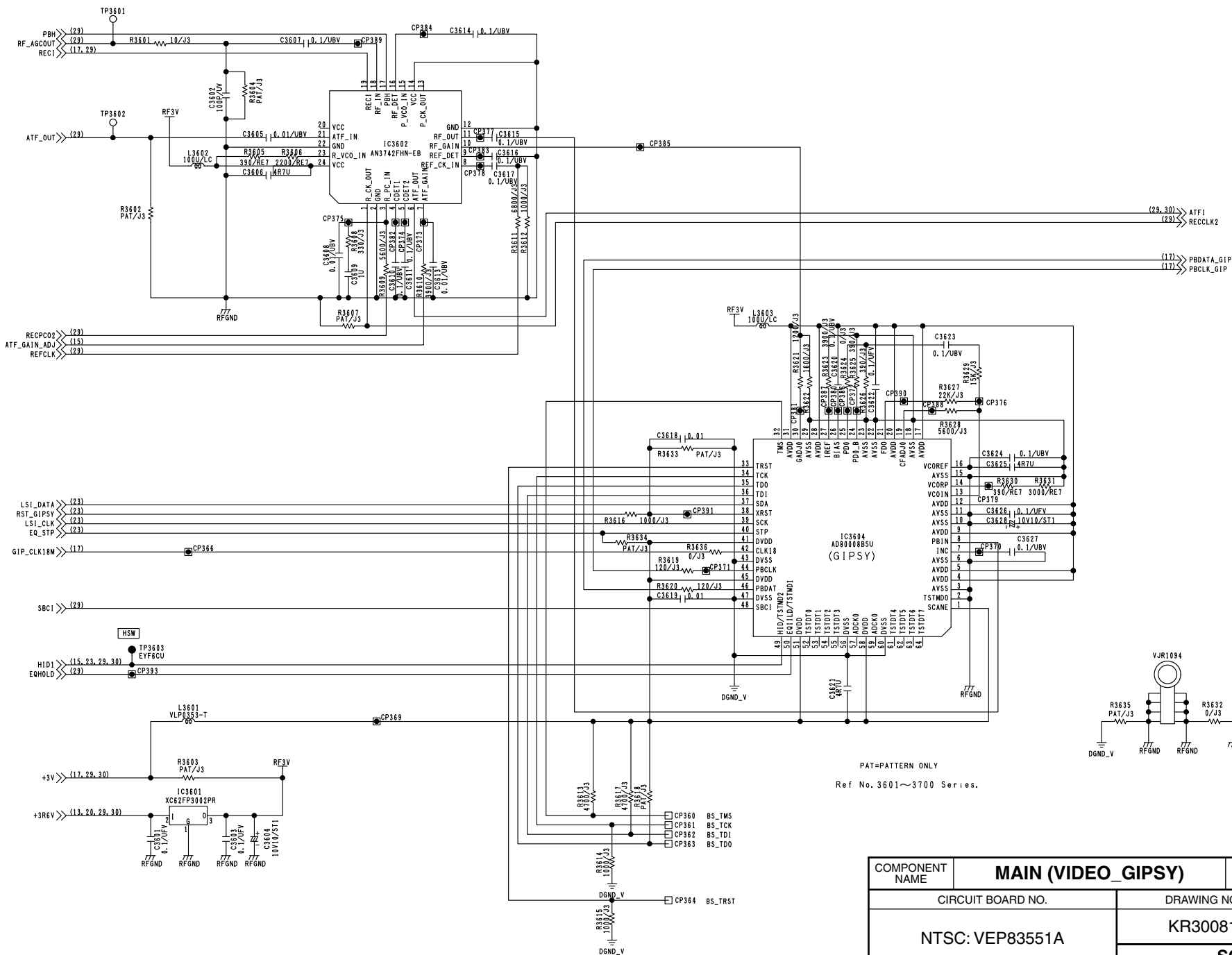


HID1 >> (16, 23, 29, 30)



PAT=PATTERN ONLY
Ref No. 3500~3599 Series.

COMPONENT NAME	MAIN (VIDEO_EVR)	15/30
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP83551A	KR30081	
	SCM015	



A

B

C

D

E

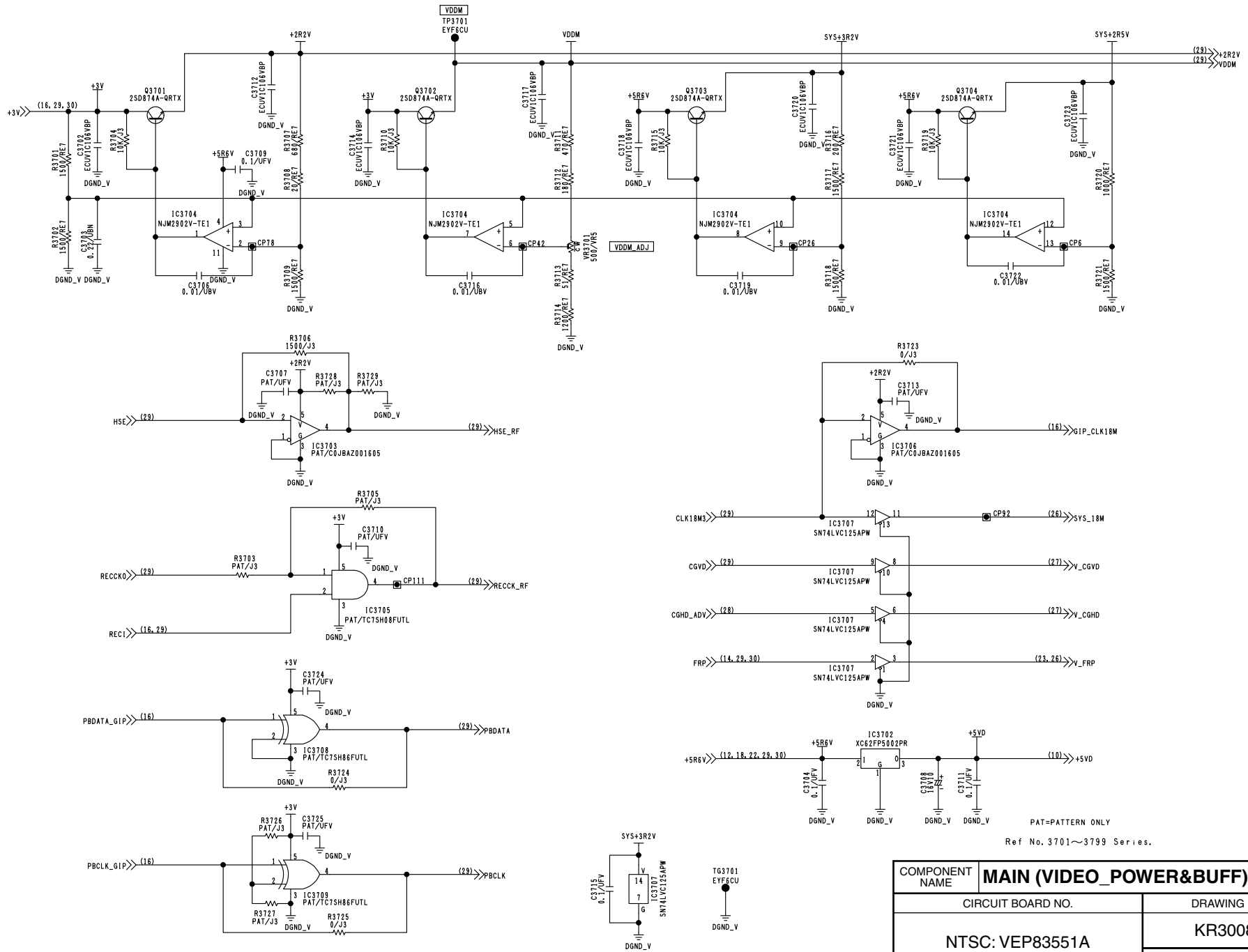
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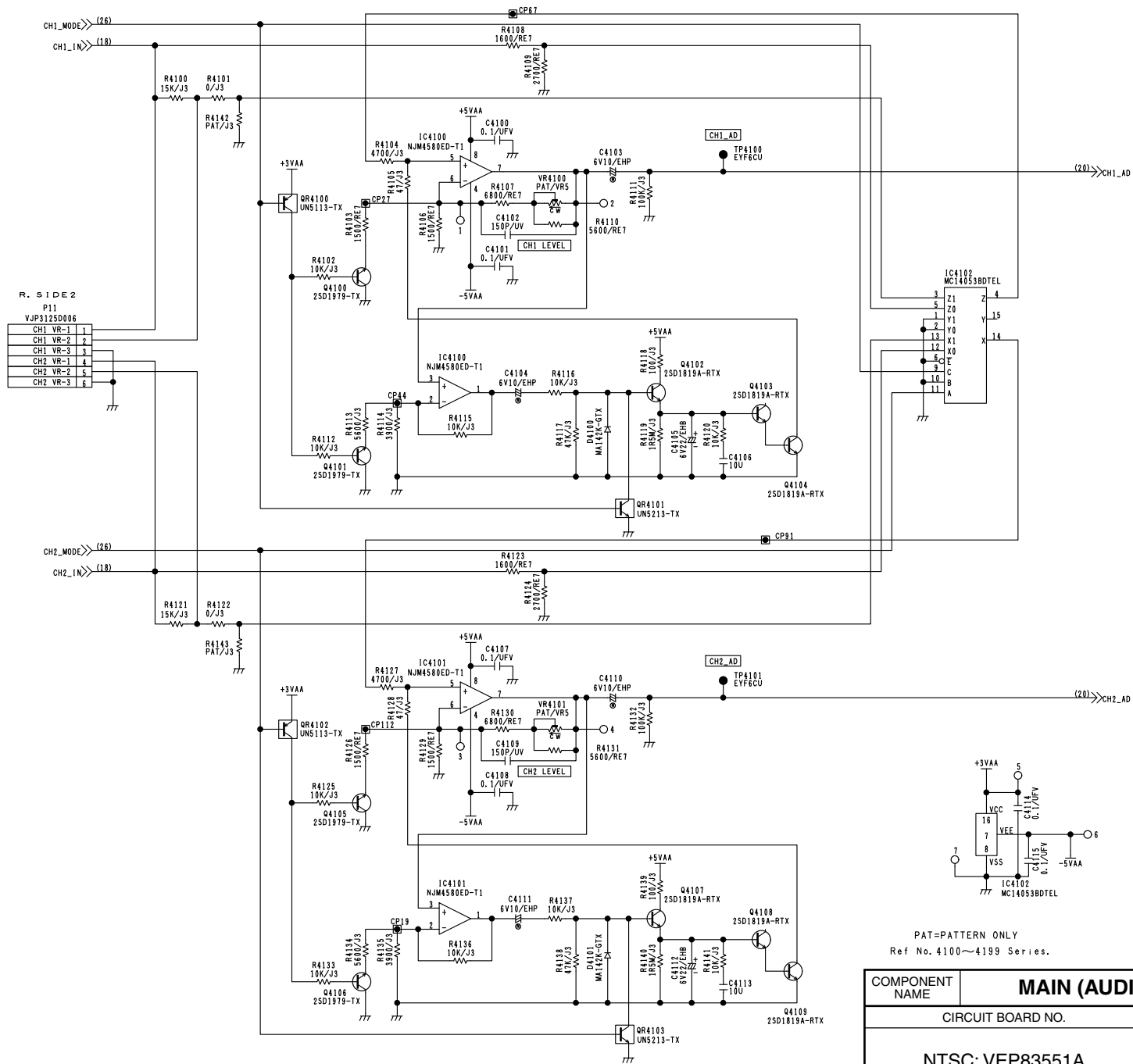
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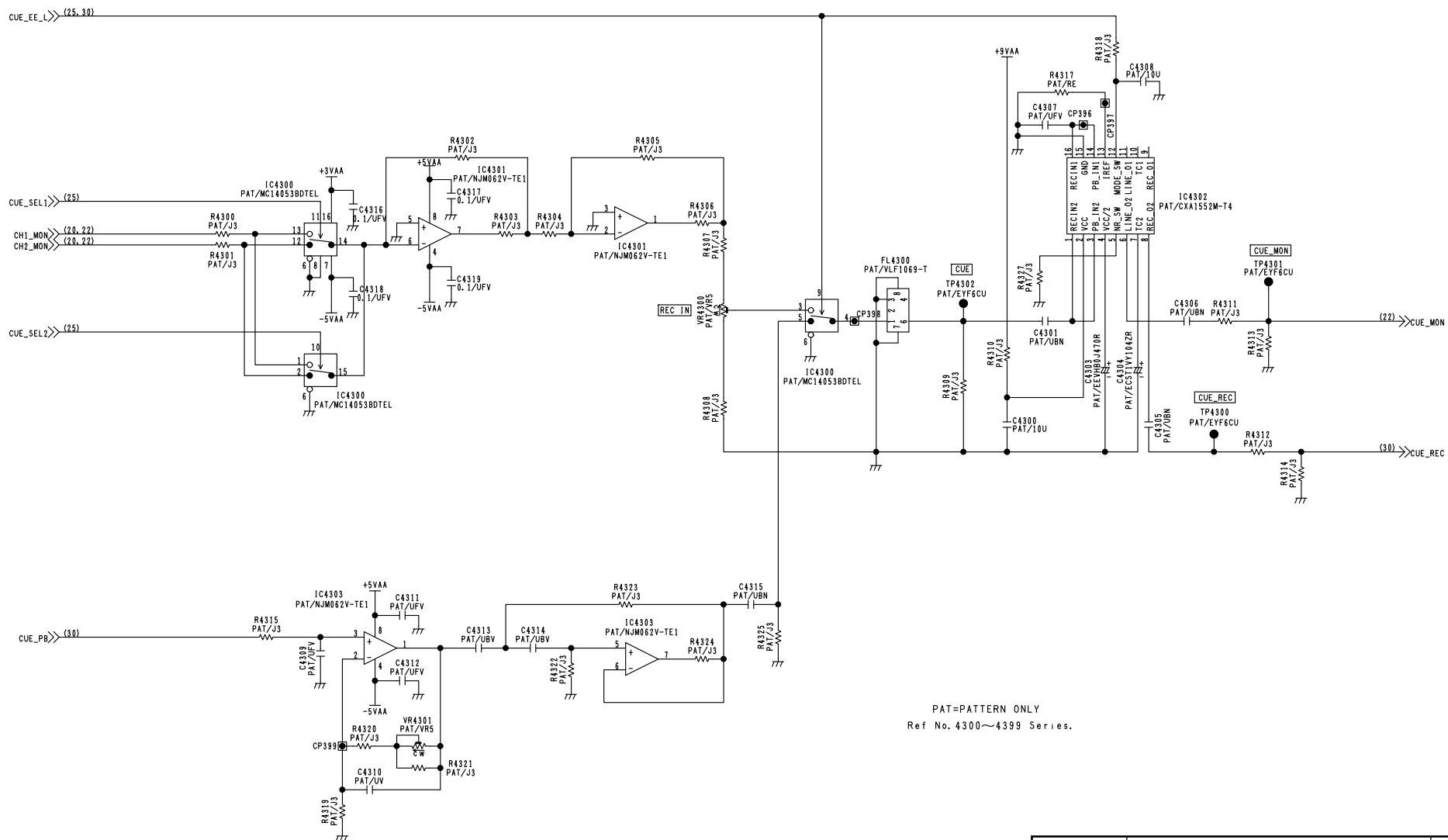
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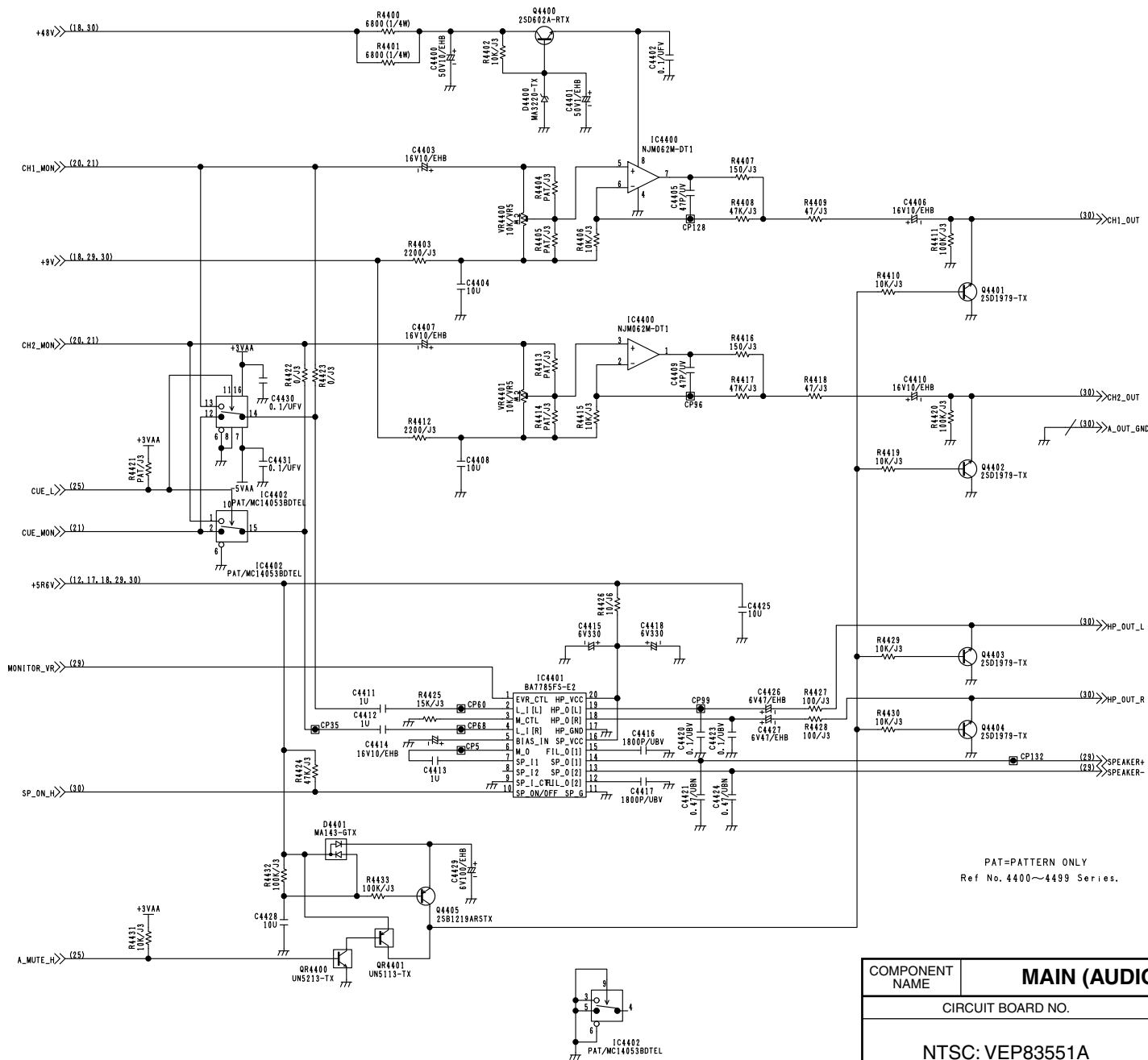
COMPONENT NAME	MAIN (VIDEO_POWER&BUFF)	17/30
CIRCUIT BOARD NO.		DRAWING NO.
NTSC: VEP83551A		KR30081
		SCM017



COMPONENT NAME	MAIN (AUDIO AGC)	19/30
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP83551A	KR30081	
	SCM019	



COMPONENT NAME	MAIN (AUDIO CUE)		21/30
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP83551A		KR30081	
		SCM021	



COMPONENT NAME	MAIN (AUDIO OUT)		22/30
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP83551A		KR30081	
		SCM022	

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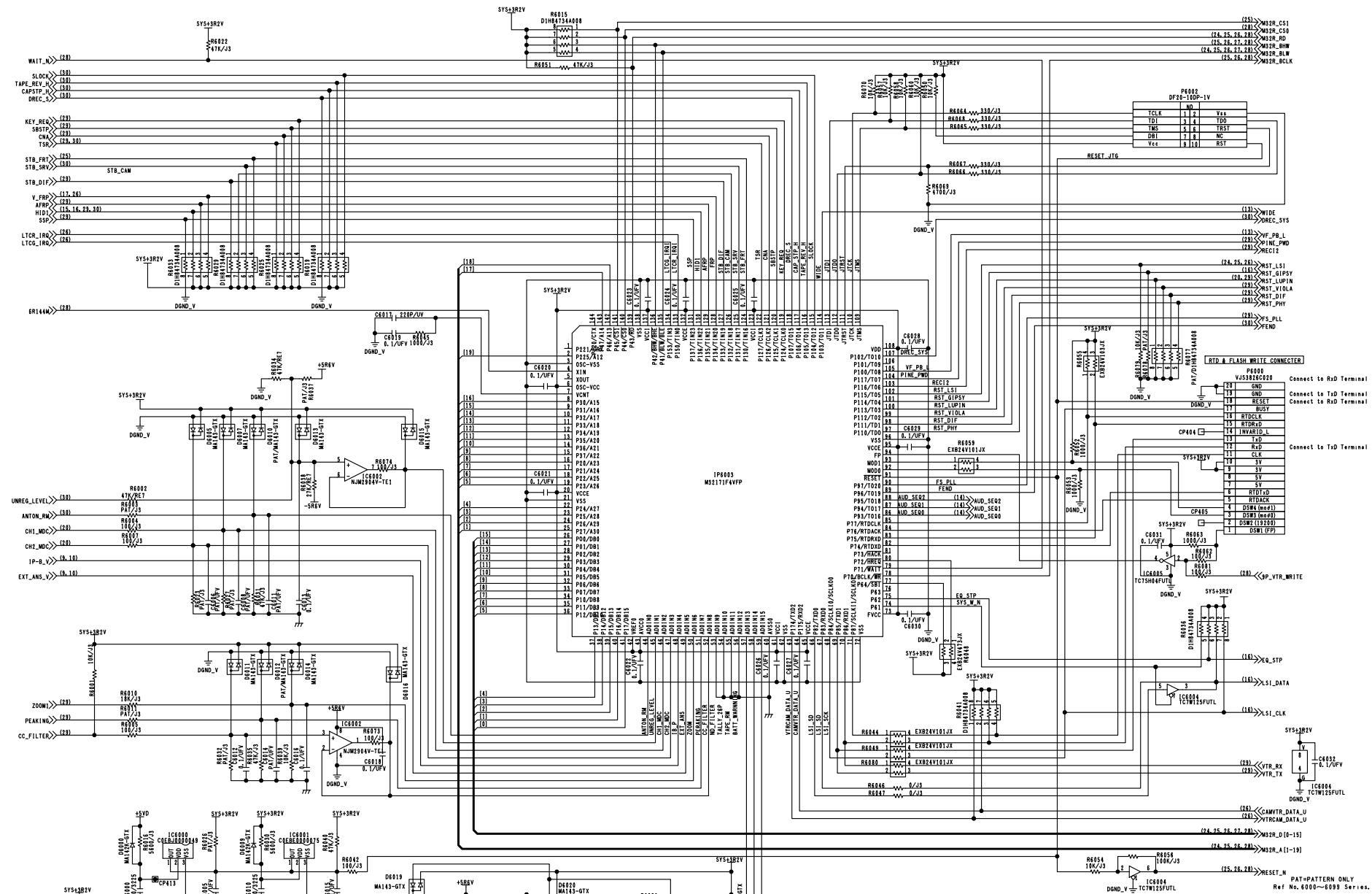
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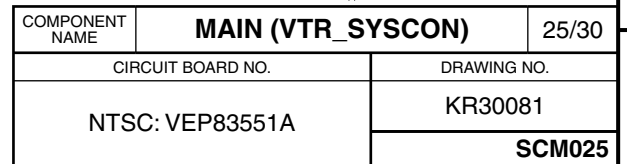
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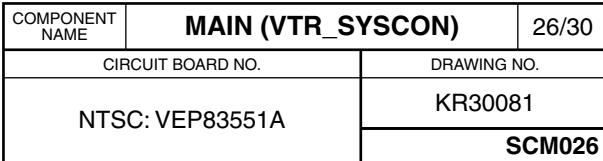
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COMPONENT NAME	MAIN (VTR_SYSCON)		23/30
CIRCUIT BOARD NO.		DRAWING NO.	
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		SCM023	

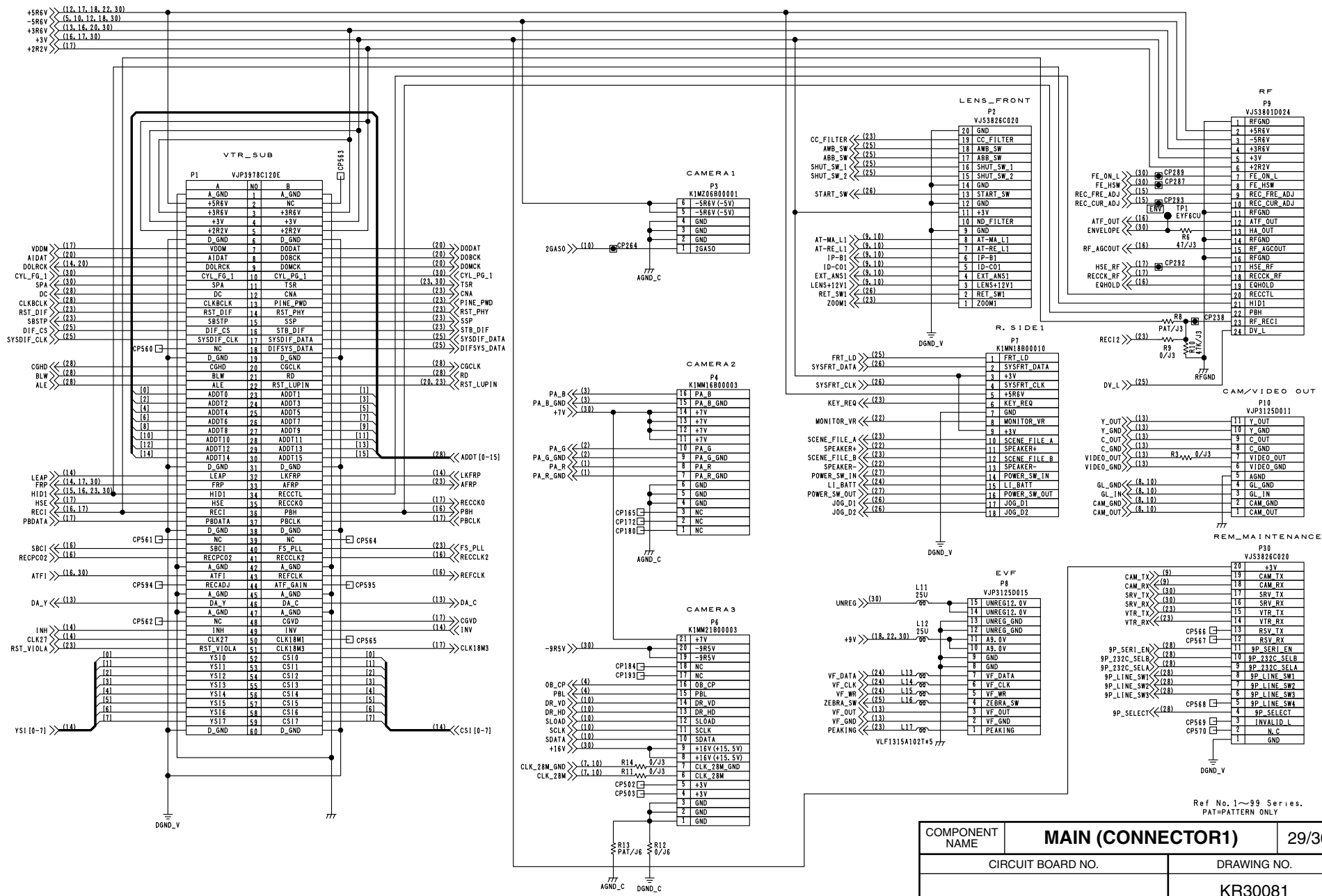
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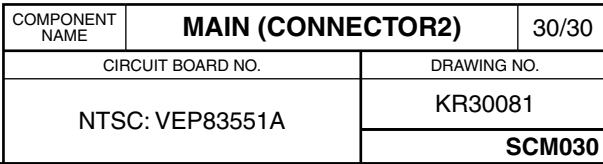


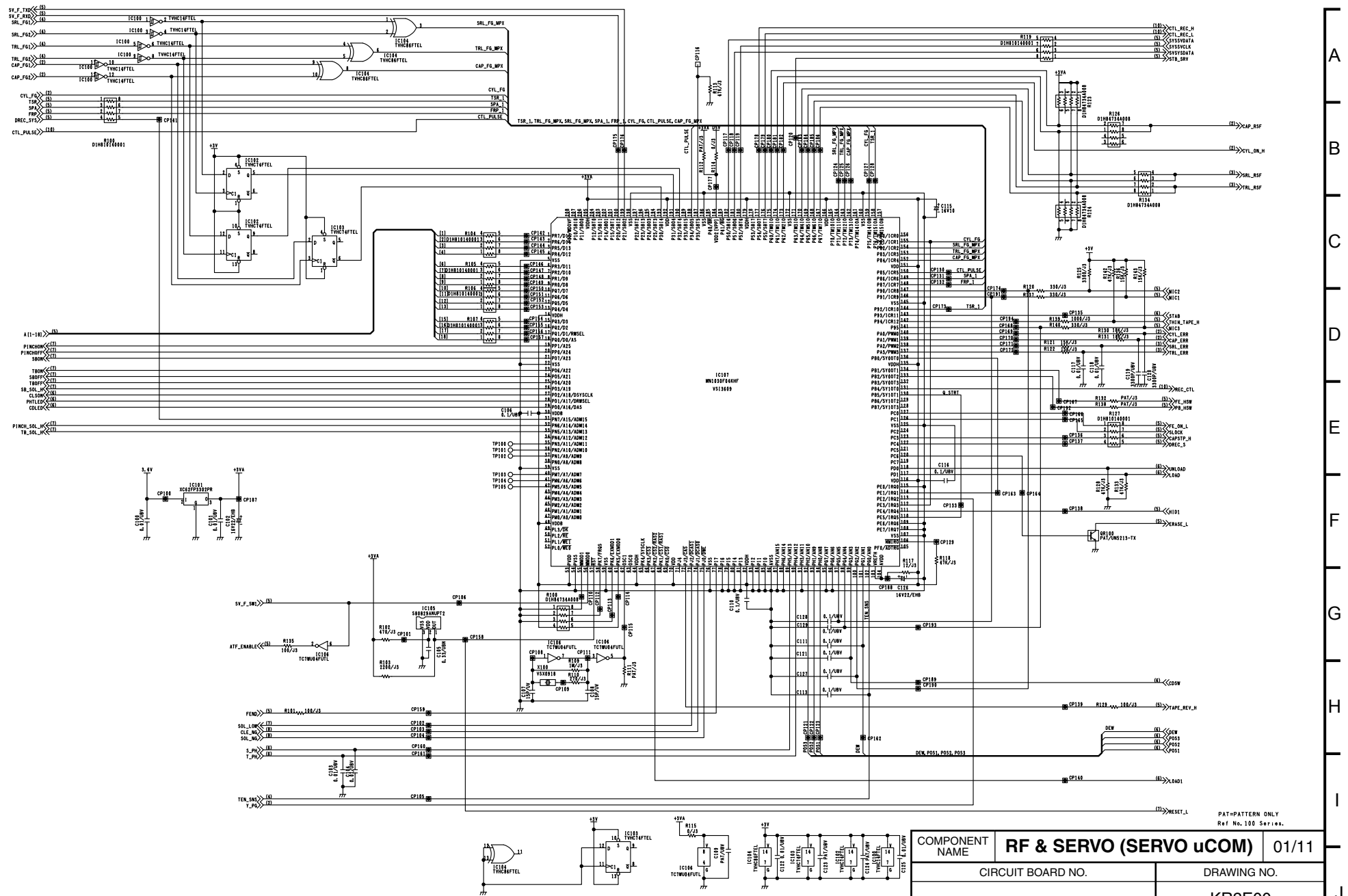


COMPONENT NAME	MAIN (VTR_SYSCON)		28/30
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP83551A		KR30081	
		SCM028	

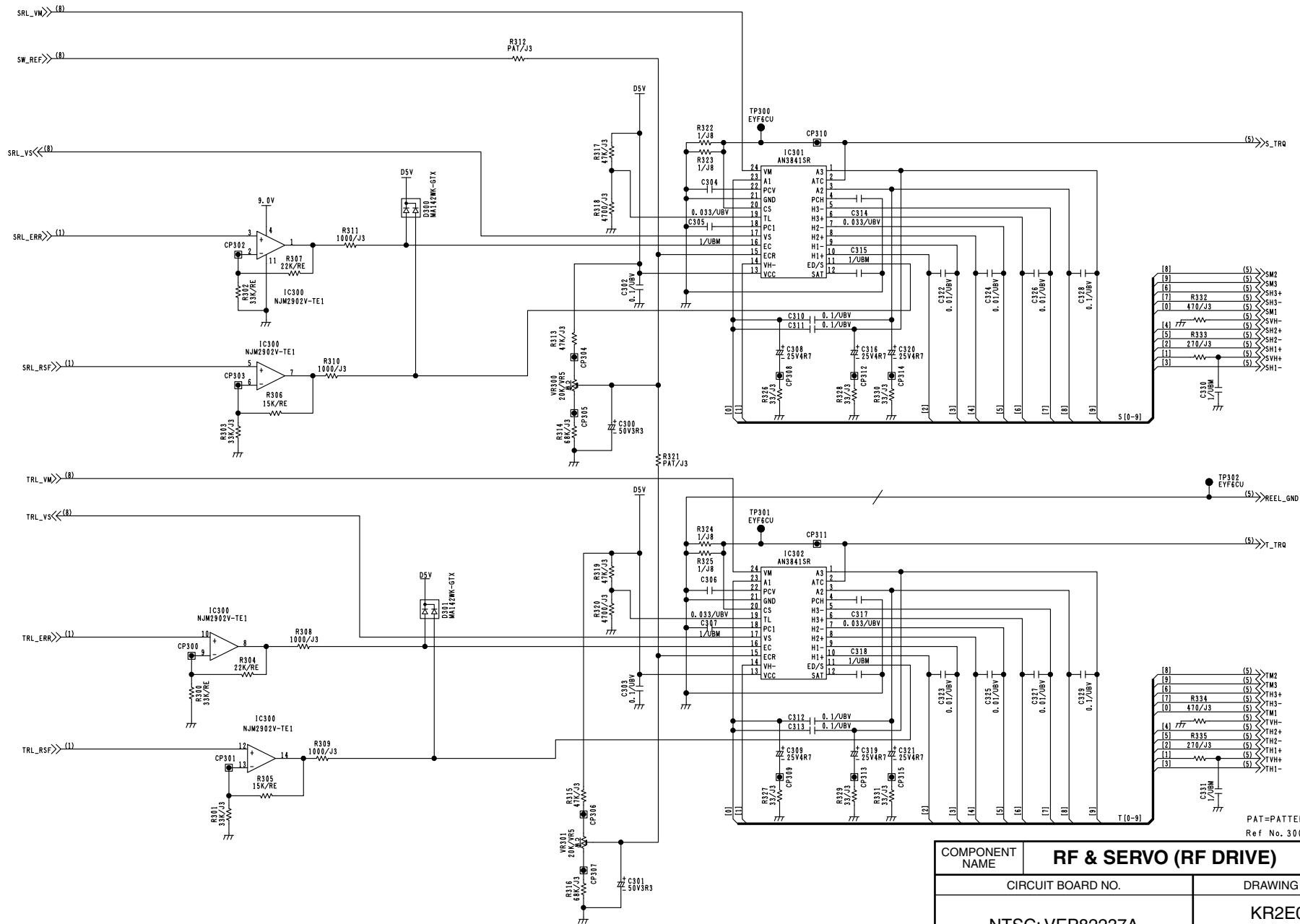


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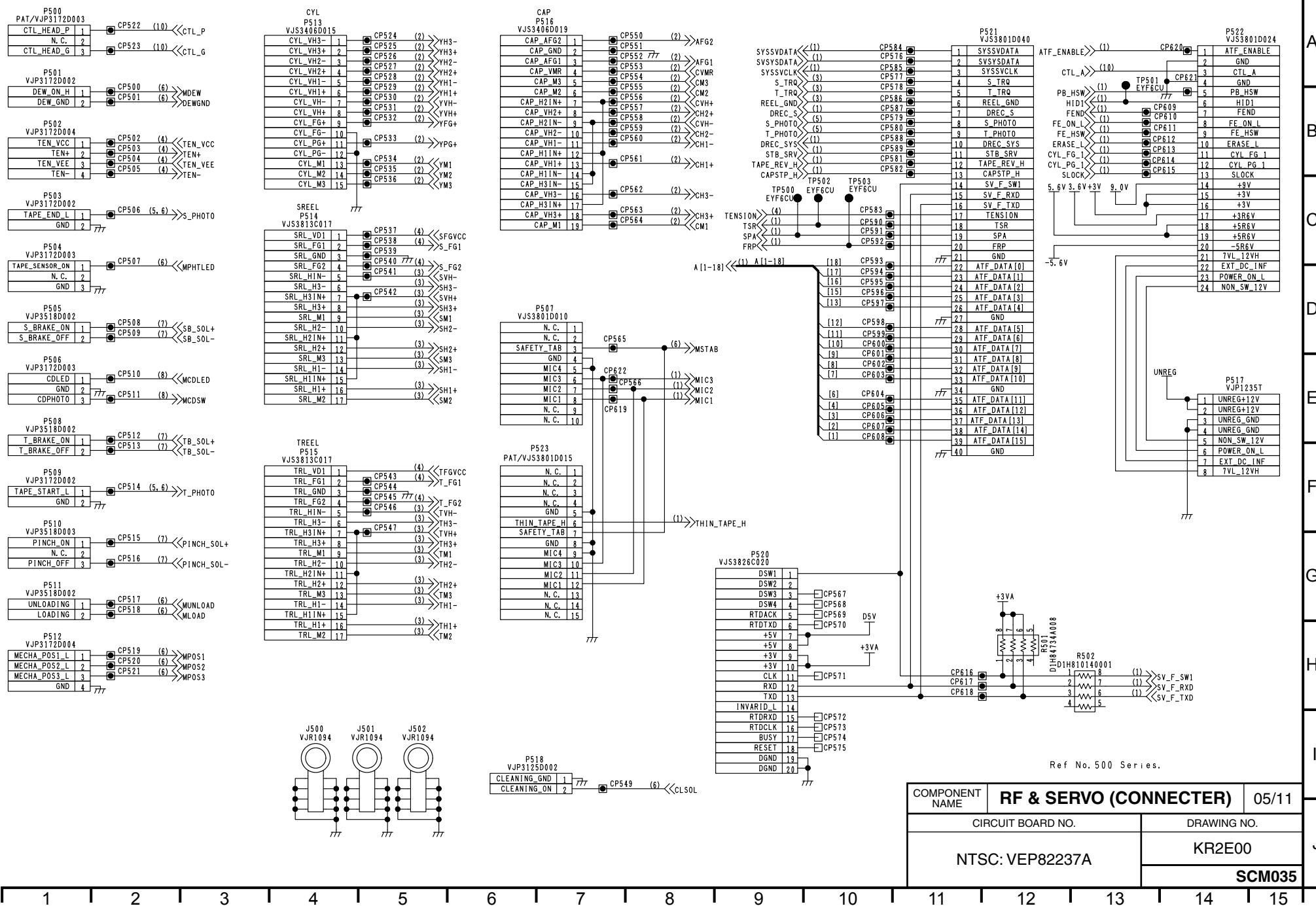


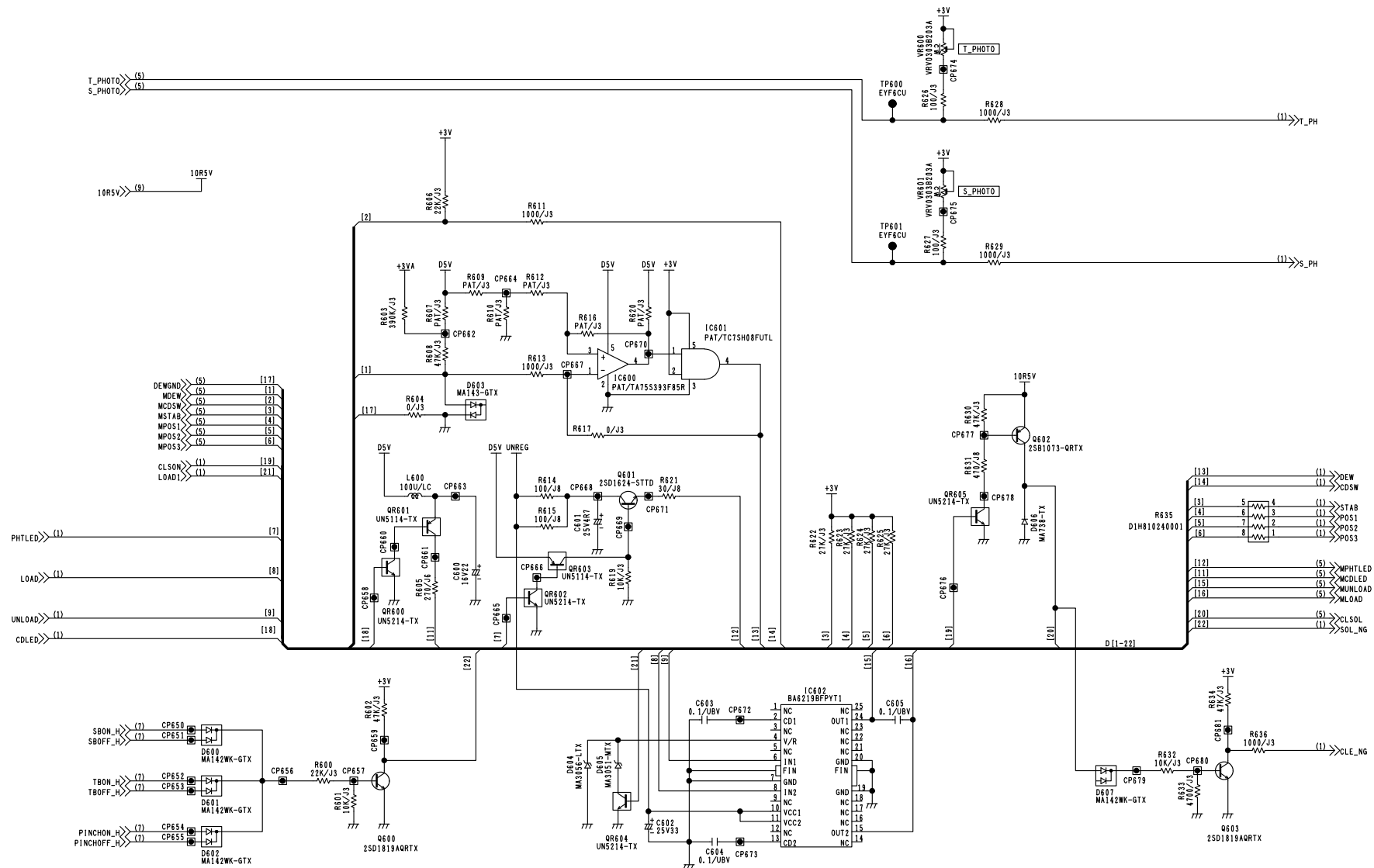
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



PAT=Pattern Only
Ref No. 300 Series.

COMPONENT NAME	RF & SERVO (RF DRIVE)		03/11
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP82237A		KR2E00	
		SCM033	

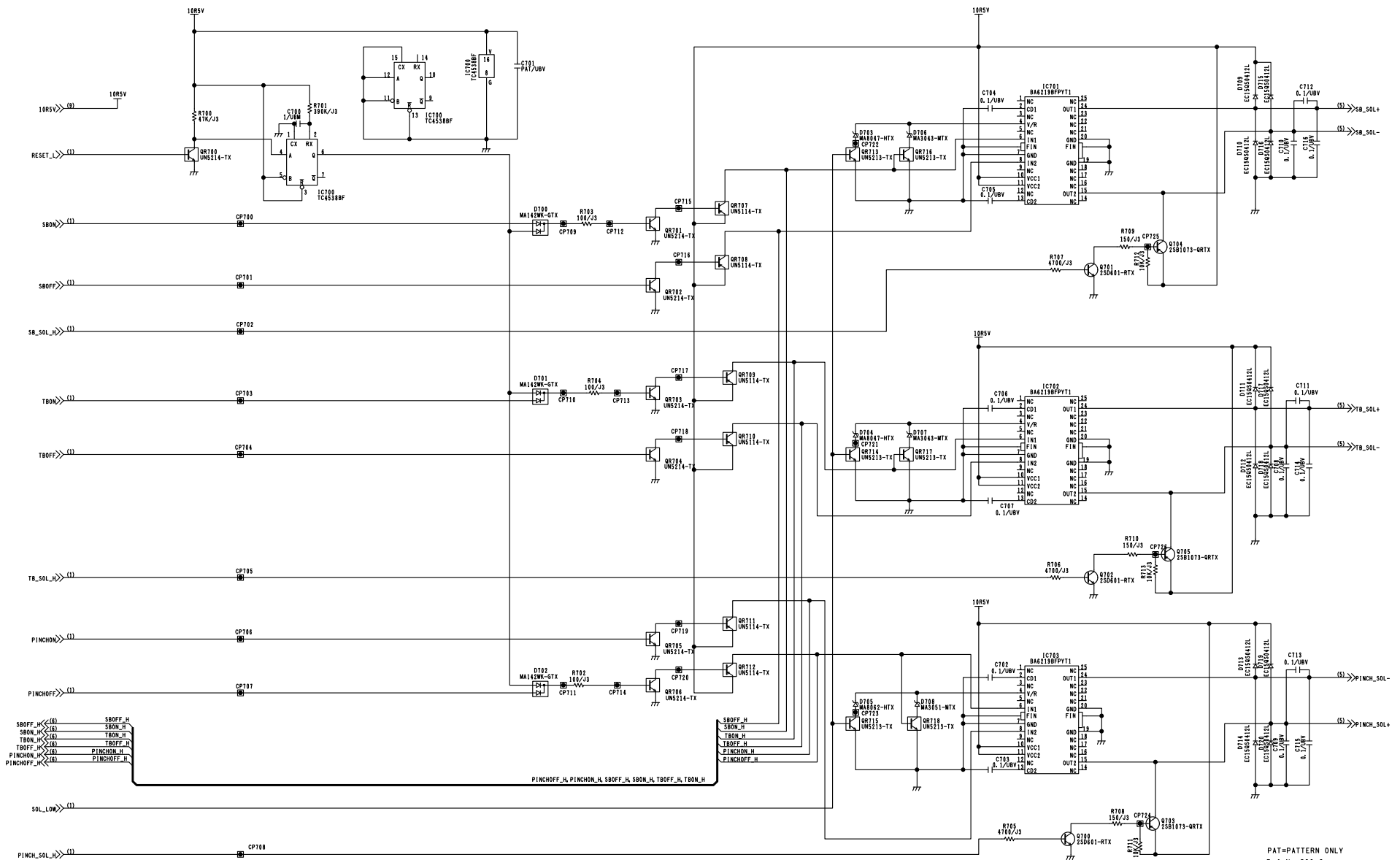




PAT=PATTERN ONLY
Ref No. 600 Series.

COMPONENT NAME	RF & SERVO (MECA SW/LOADING DRIVE)	06/11
CIRCUIT BOARD NO.	NTSC: VEP82237A	DRAWING NO. KR2E00
		SCM036

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15



PAT= PATTERN ONLY
Ref. No. 700 Series.

COMPONENT NAME	RF & SERVO (SOL DRIVE)	07/11
CIRCUIT BOARD NO.	NTSC: VEP82237A	DRAWING NO.
		KR2E00
		SCM037

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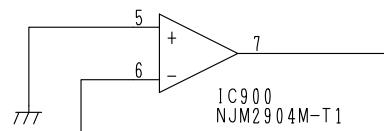
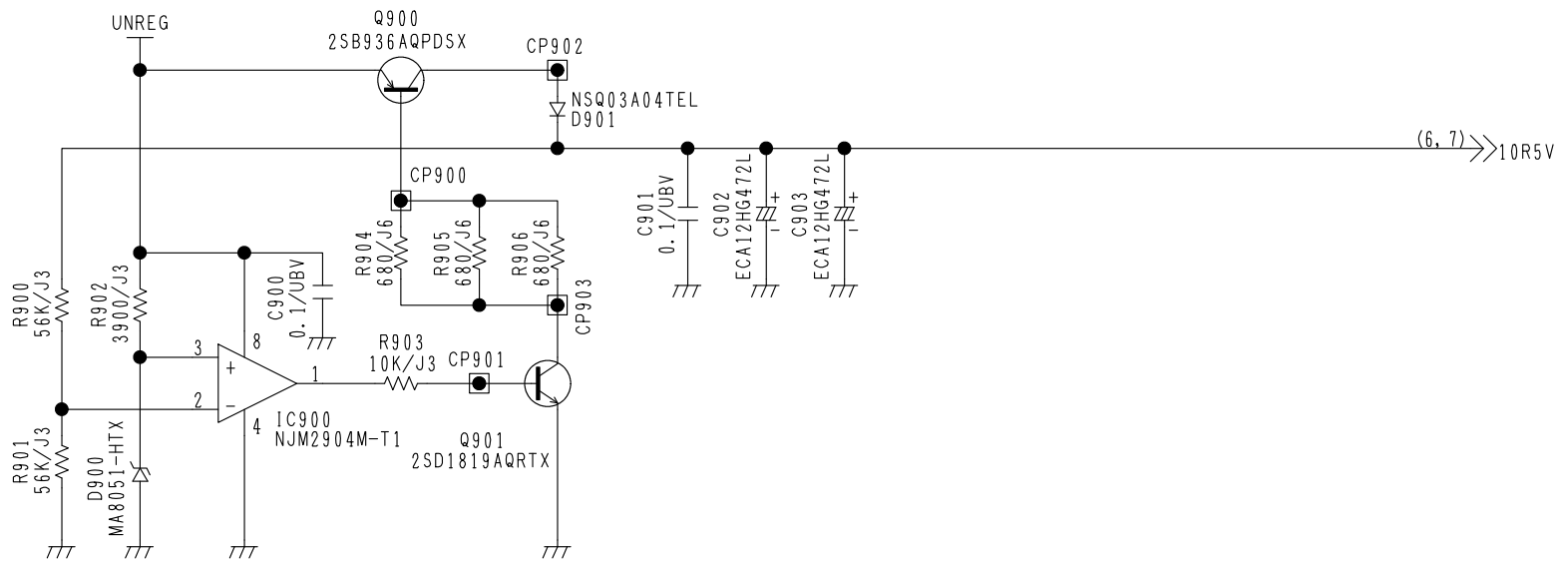
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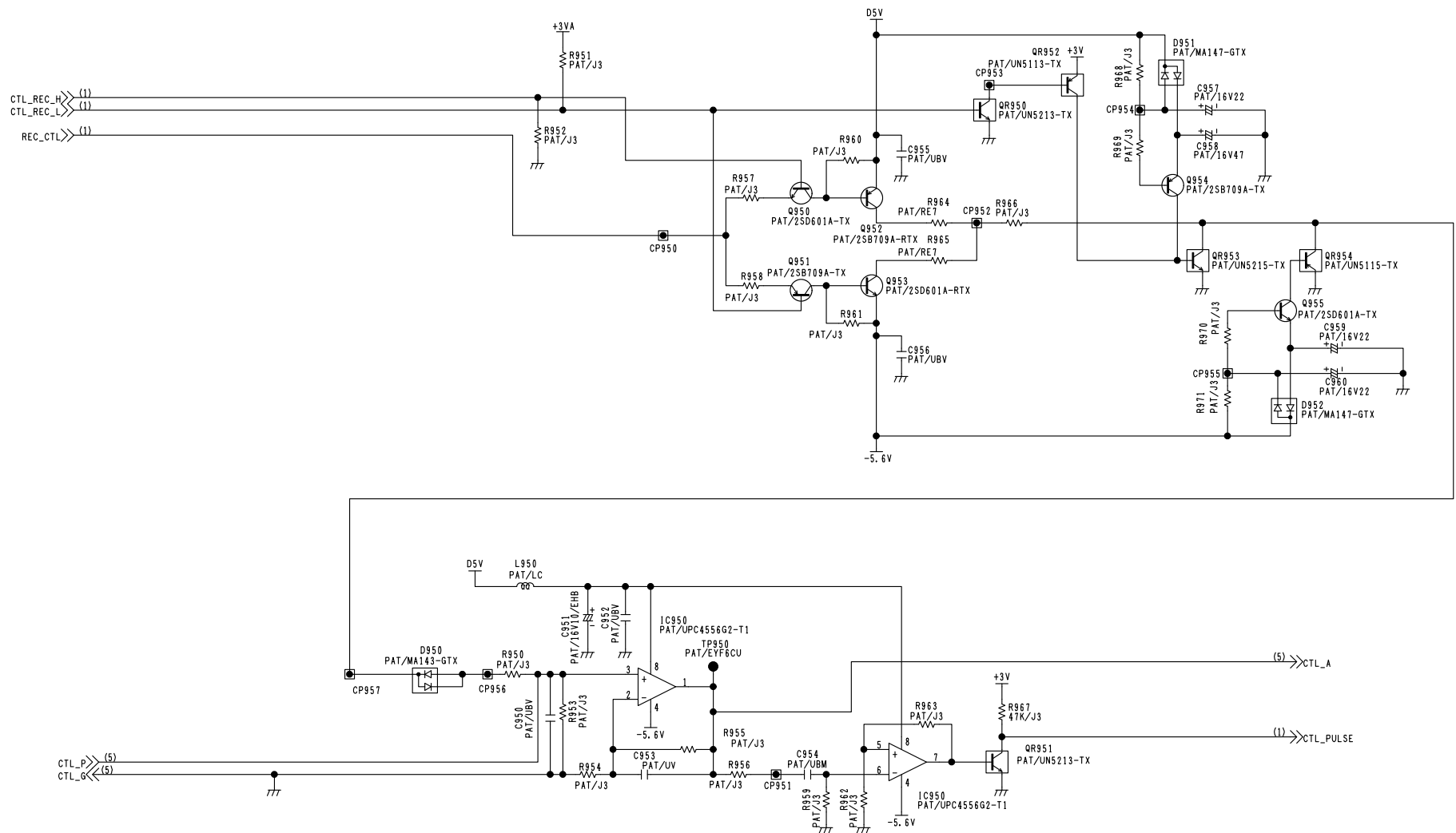
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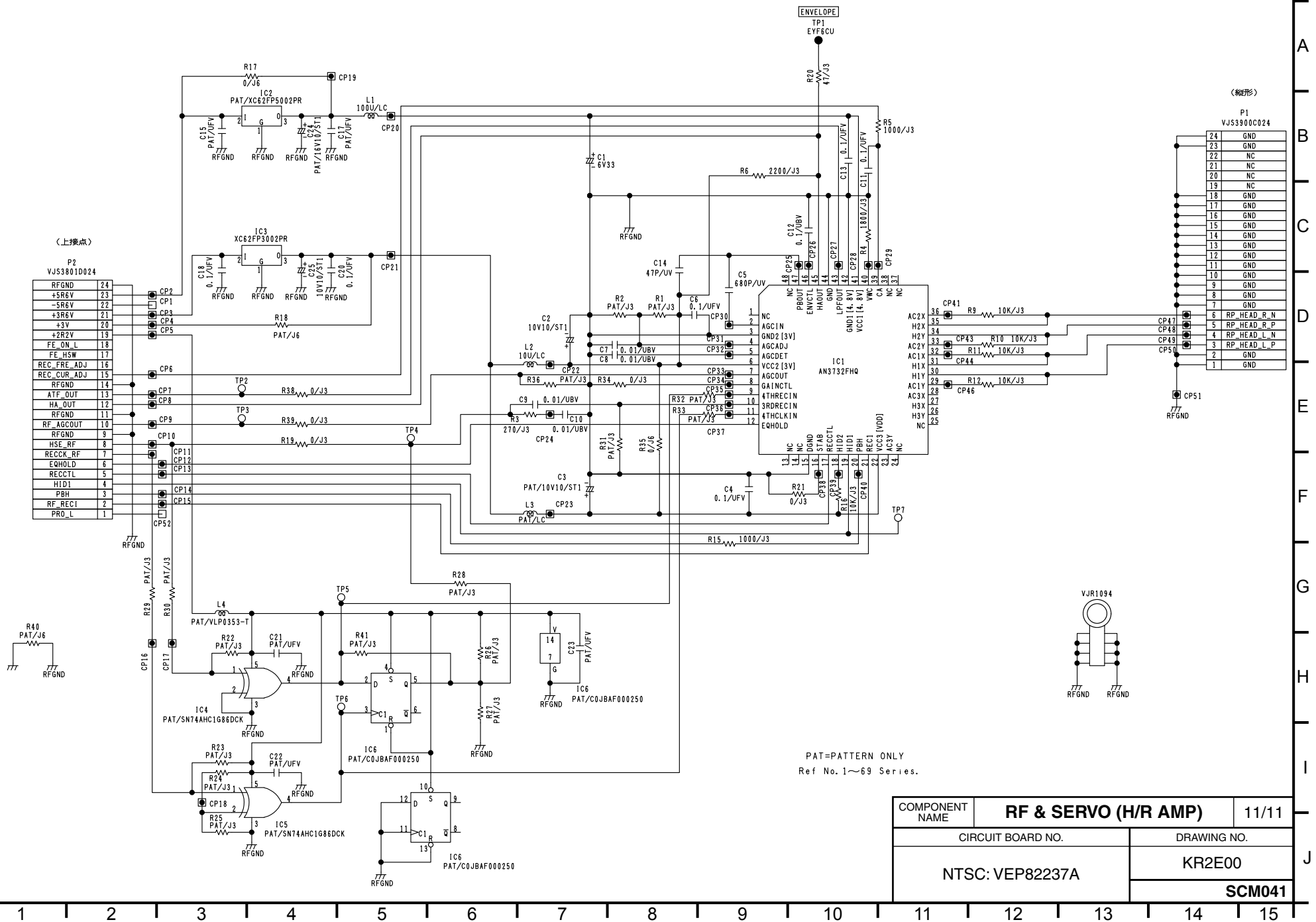
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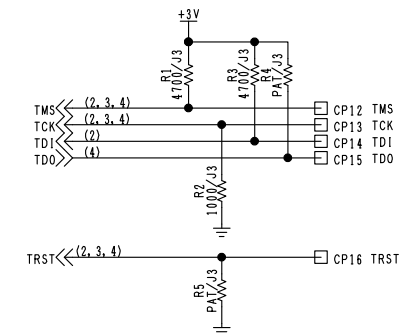
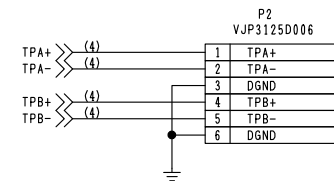
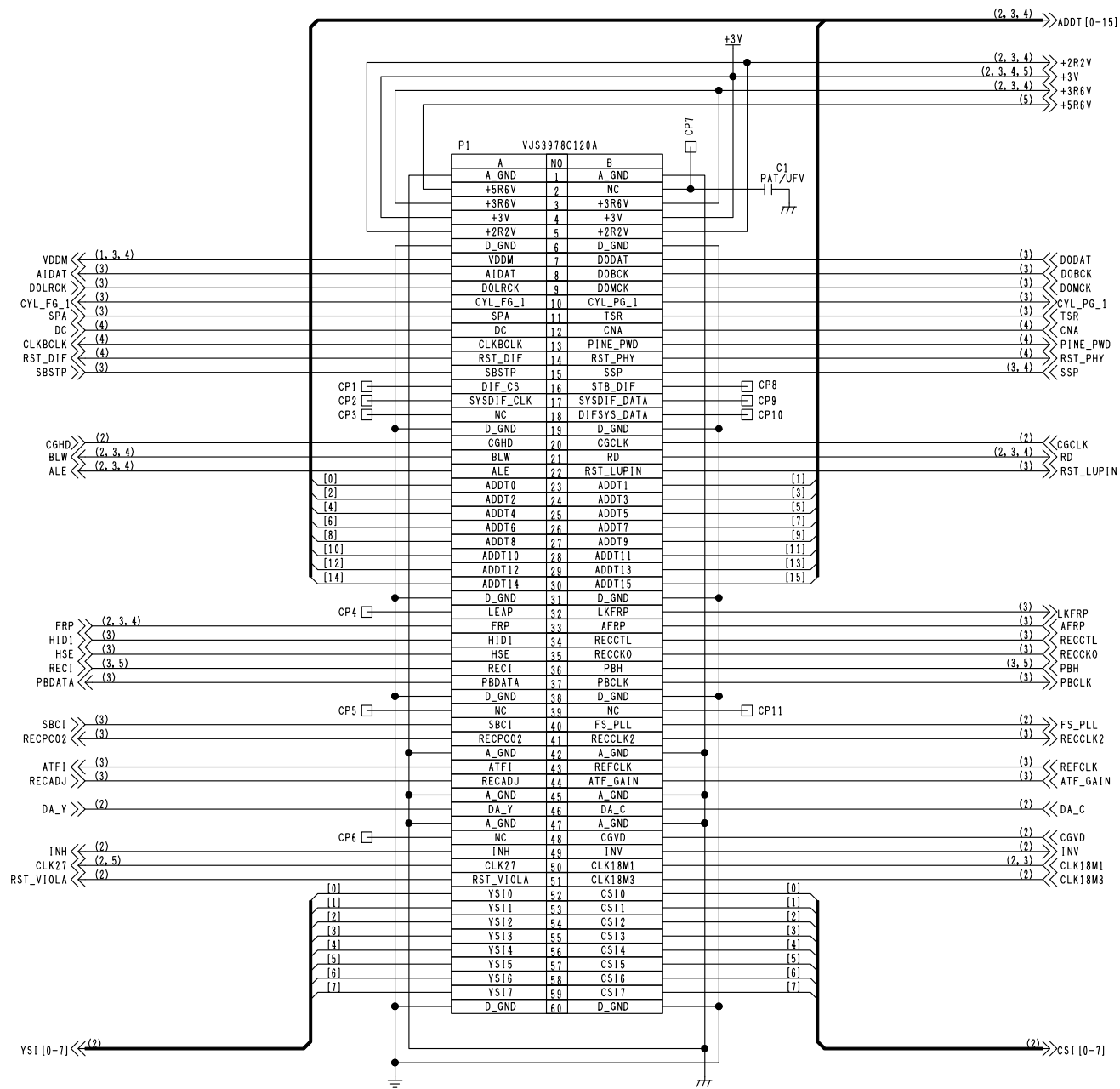


COMPONENT NAME	RF & SERVO (SOL POWER)		09/11
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP82237A		KR2E00	
		SCM039	



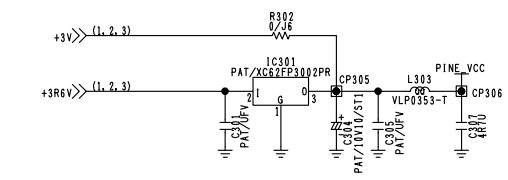
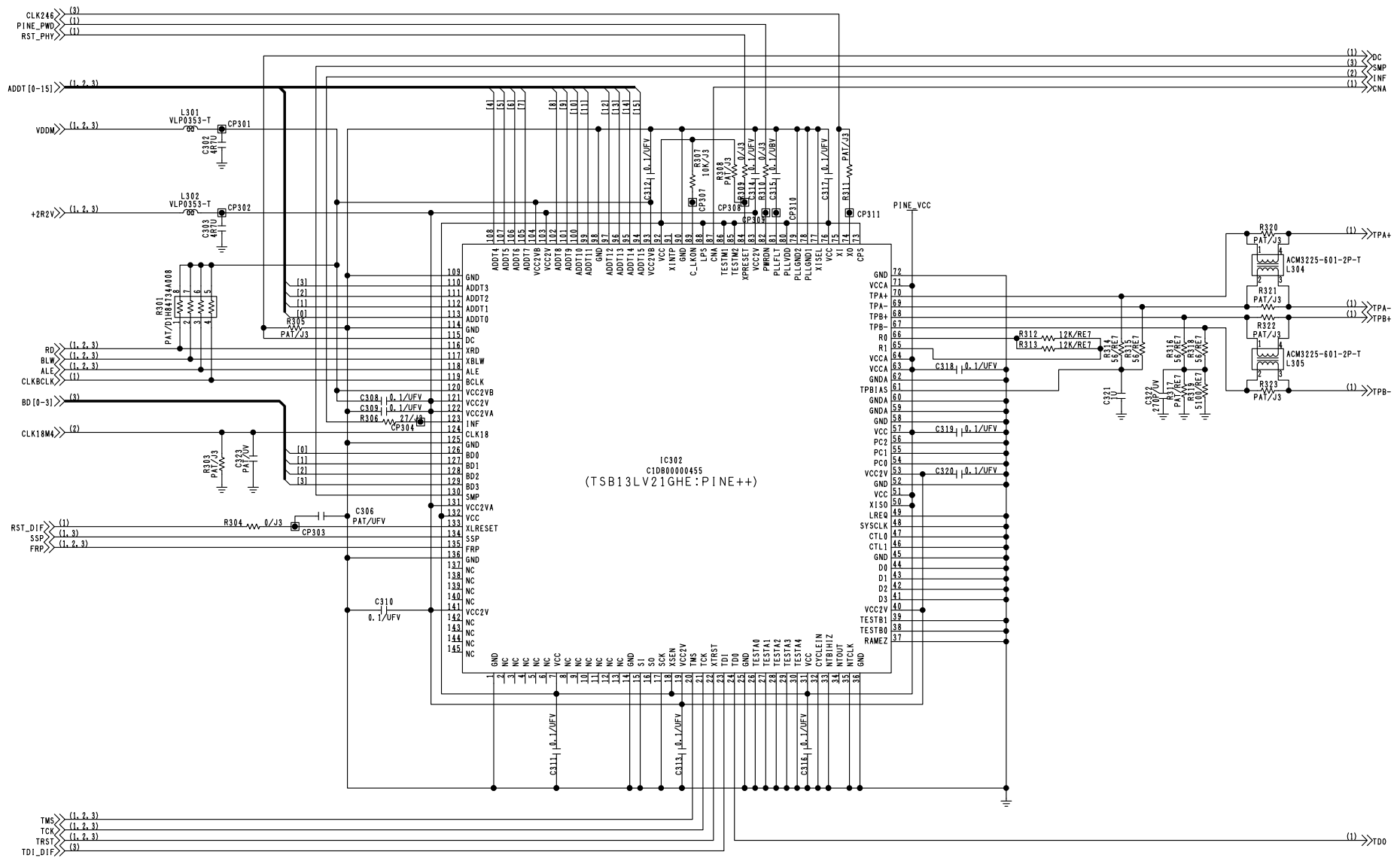
COMPONENT NAME	RF & SERVO (CTL AMP)	10/11
CIRCUIT BOARD NO.	NTSC: VEP82237A	DRAWING NO. KR2E00
		SCM040



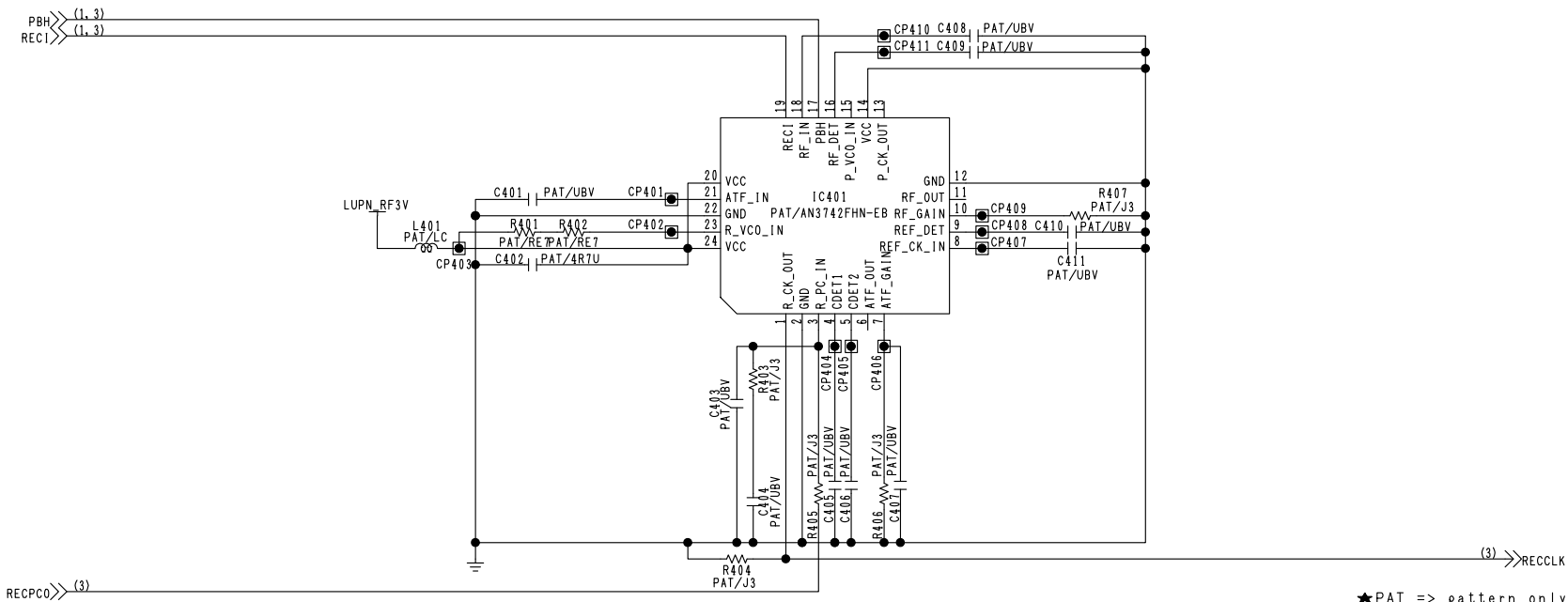
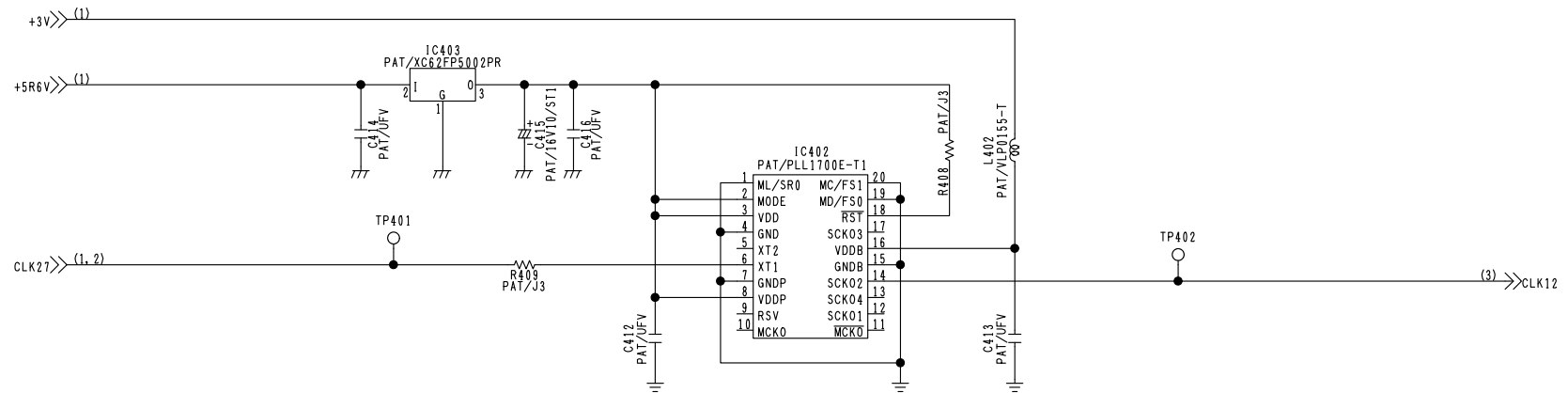


★PAT => pattern only
☆Ref No.1~100 Series.

COMPONENT NAME	VTR SUB (CONNECTOR)	01/05
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP83548A	KR30078	
	SCM042	



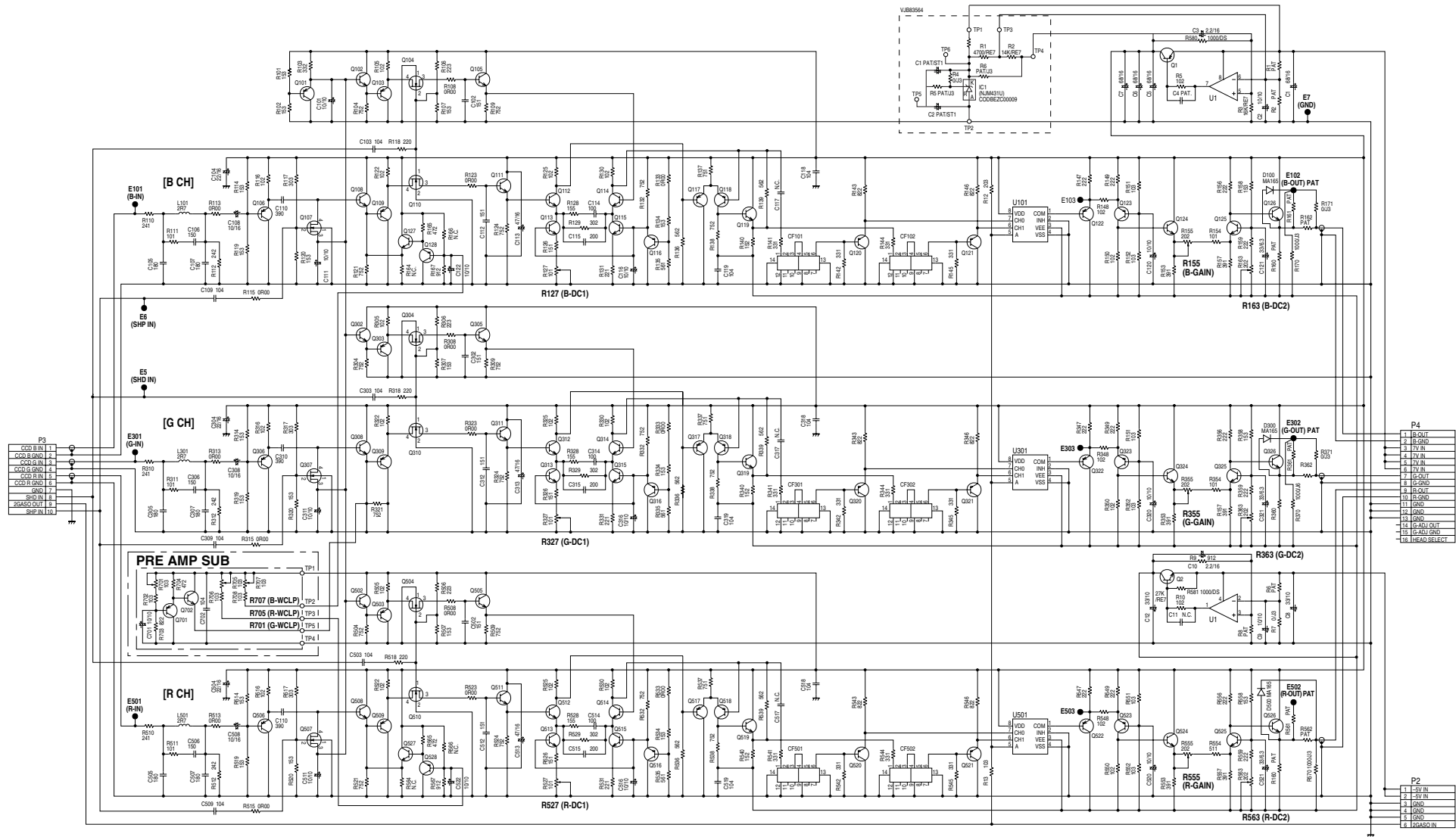
COMPONENT NAME	VTR SUB (PINE++)	04/05
CIRCUIT BOARD NO.	NTSC: VEP83548A	DRAWING NO.
		KR30078
		SCM045



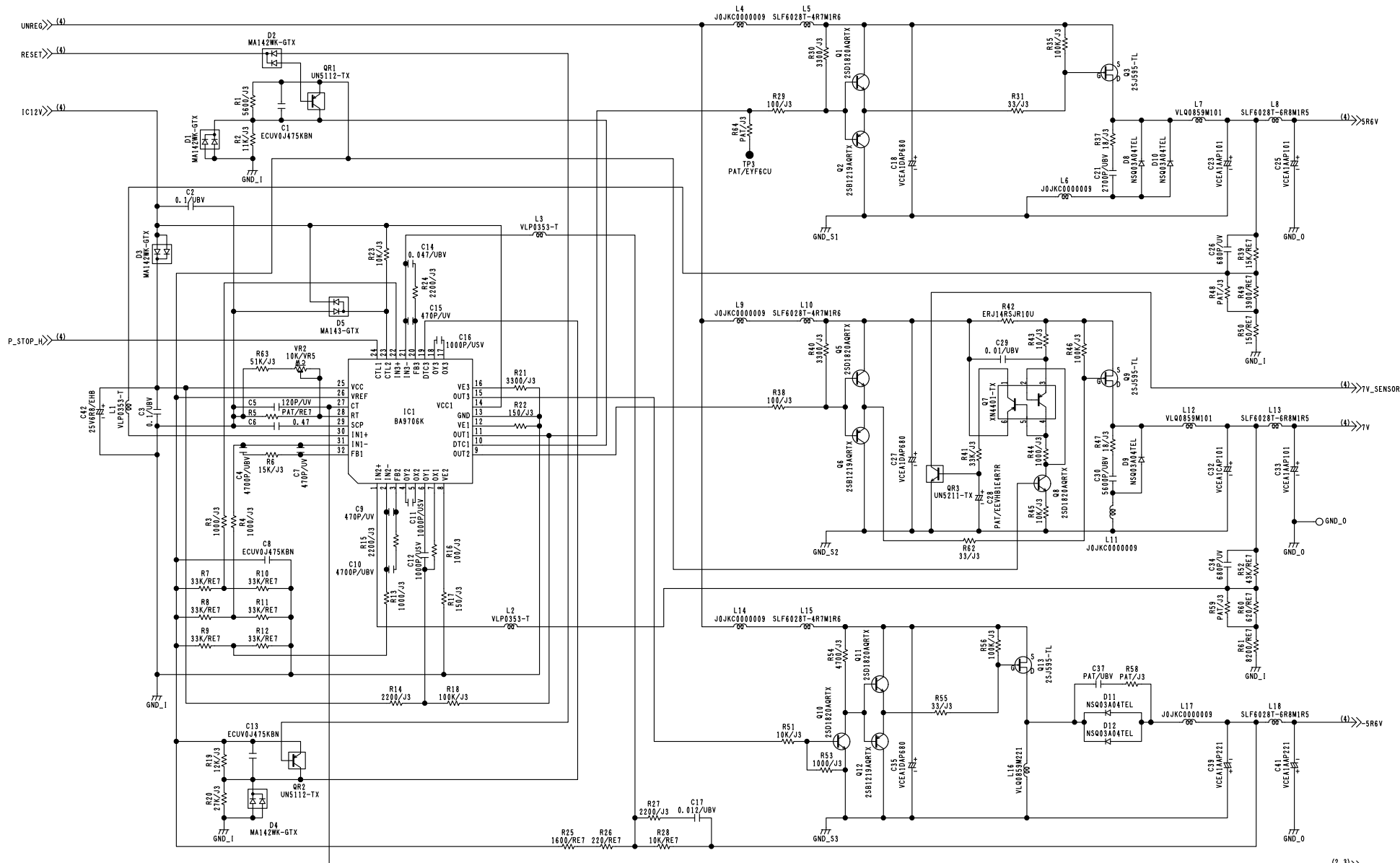
★PAT => pattern only
☆Ref No. 401~500 Series.

COMPONENT NAME	VTR SUB (RF_PLL)	05/05
CIRCUIT BOARD NO.	NTSC: VEP83548A	DRAWING NO.
		KR30078
		SCM046

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

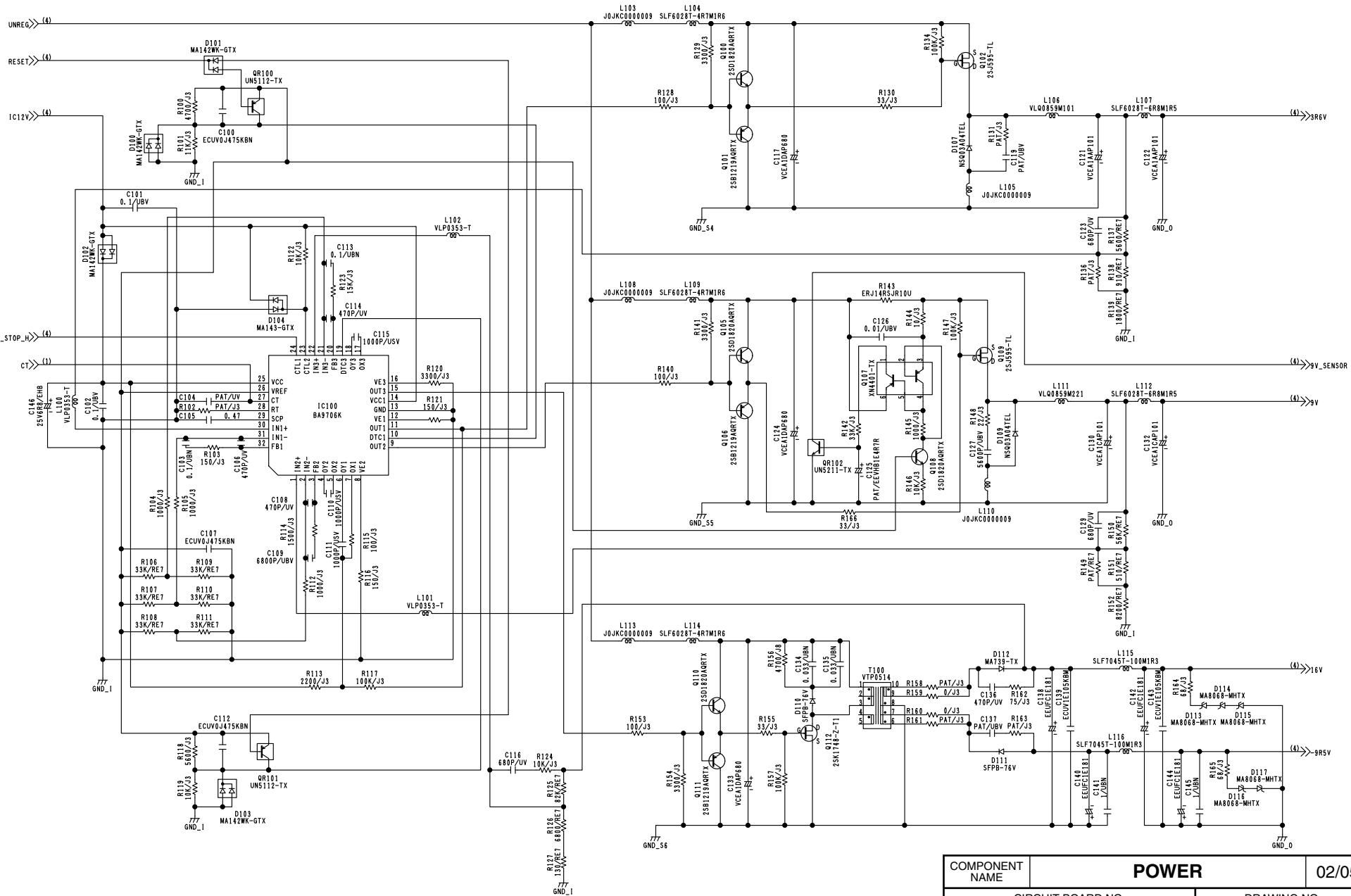


COMPONENT NAME	PRE AMP	01/01
CIRCUIT BOARD NO.	DRAWING NO.	
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		SCM047



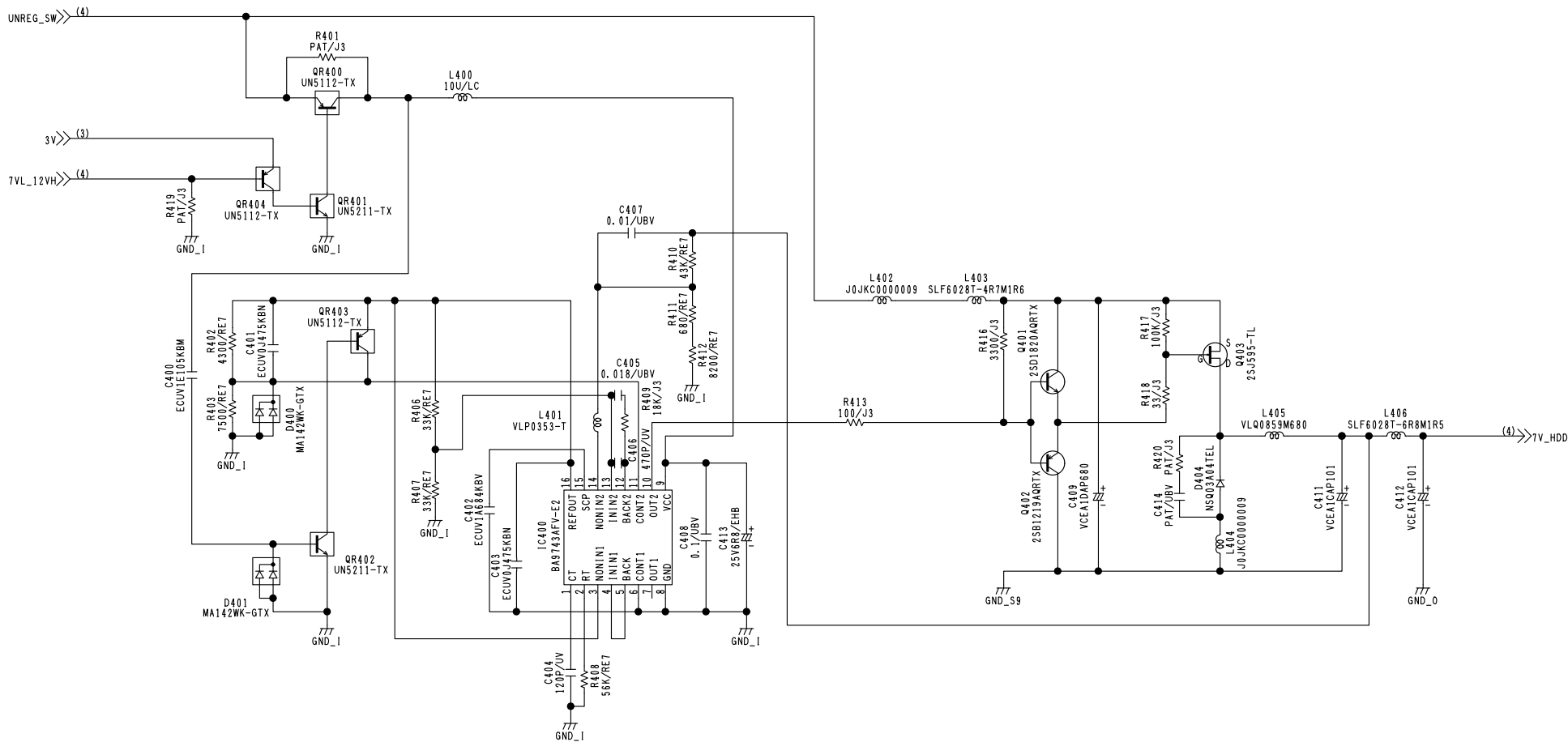
COMPONENT NAME	POWER	01/05
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP81220A	KR1E83	
	SCM048	

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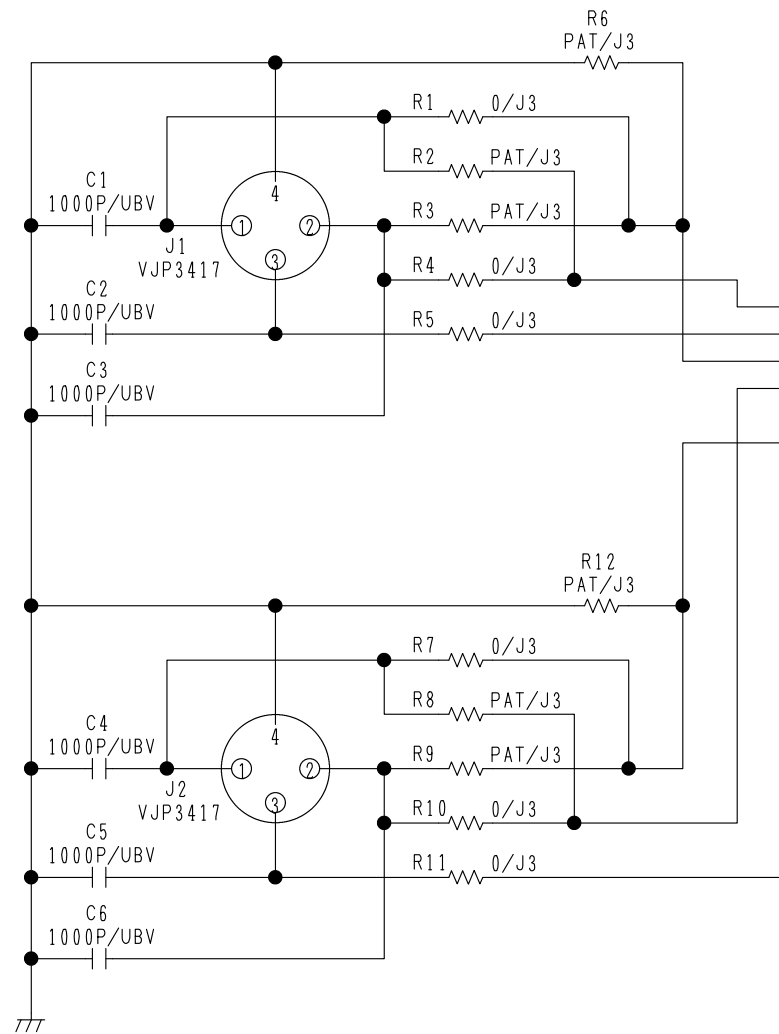


COMPONENT NAME	POWER	02/05
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP81220A	KR1E83	
	SCM049	





COMPONENT NAME	POWER	05/05
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP81220A	KR1E83	
	SCM052	

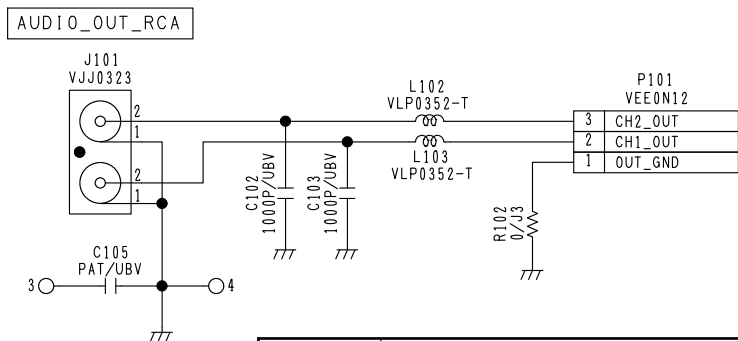
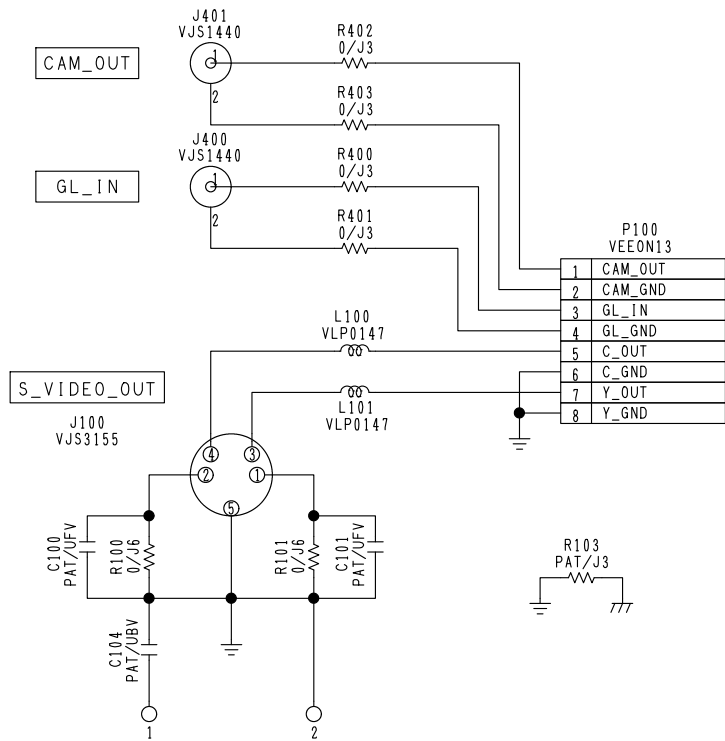


	T	P, E
J1	VJP3417	VJS3417
J2	VJP3417	VJS3417
R1	ERJ3GEY0R00V	PAT
R2	PAT	ERJ3GEY0R00V
R3	PAT	ERJ3GEY0R00V
R4	ERJ3GEY0R00V	PAT
R7	ERJ3GEY0R00V	PAT
R8	PAT	ERJ3GEY0R00V
R9	PAT	ERJ3GEY0R00V
R10	ERJ3GEY0R00V	PAT

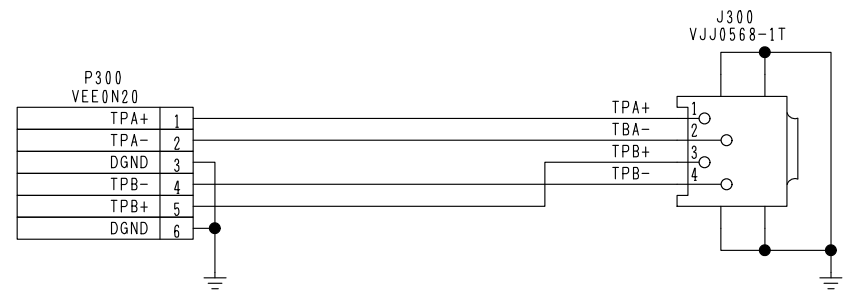
P1 VEE0N11	
1	CH1_IN_H
2	CH1_IN_C
3	CH1_IN_G
4	CH2_IN_H
5	CH2_IN_C
6	CH2_IN_G

PAT=PATTERN ONLY

COMPONENT NAME	REAR JACK		01/01
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP80C06A		KROQ16	
		SCM053	

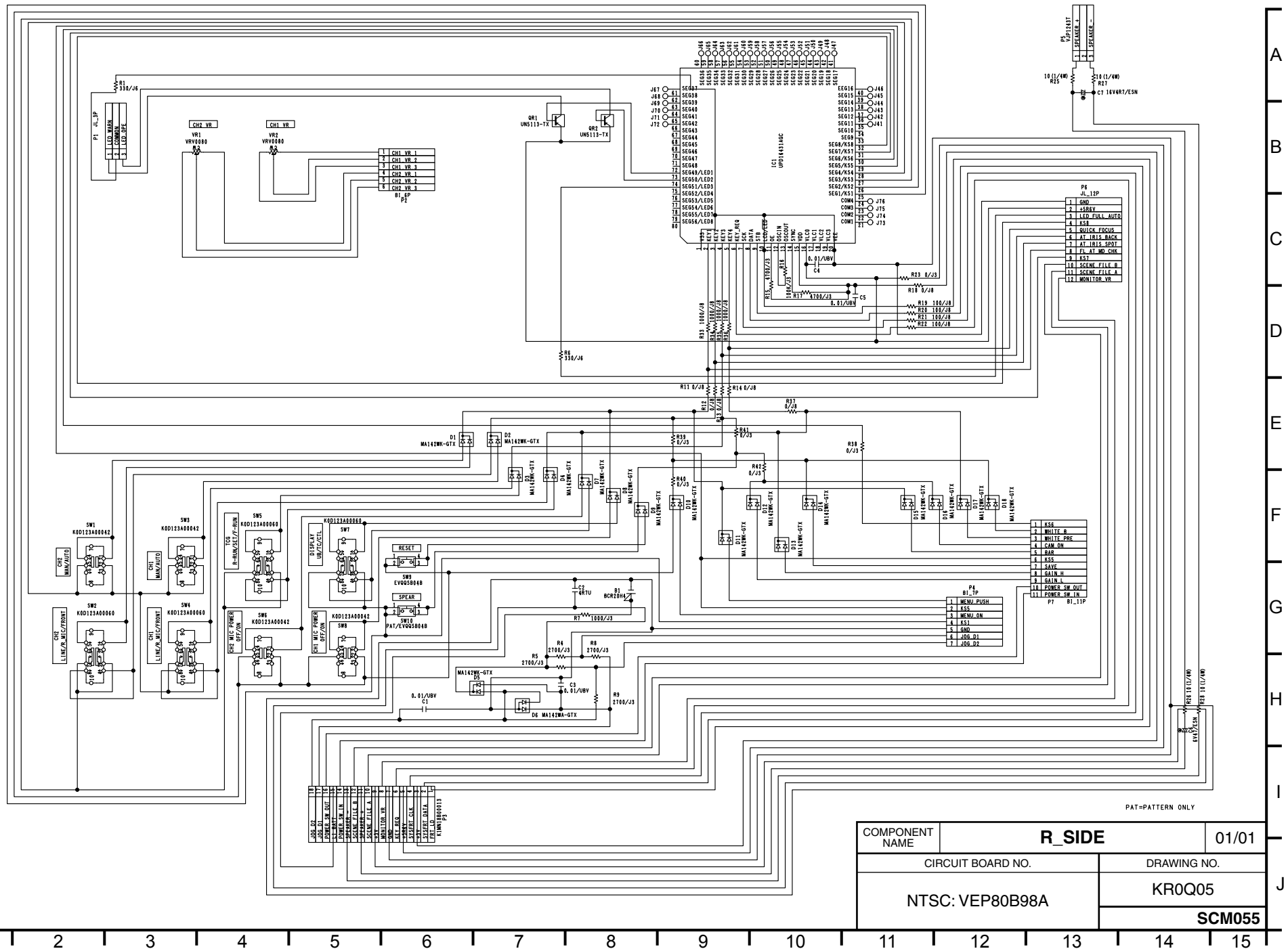


COMPONENT NAME	AV_OUT	01/01
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP80C07A	KR0Q17	
	SCM054	



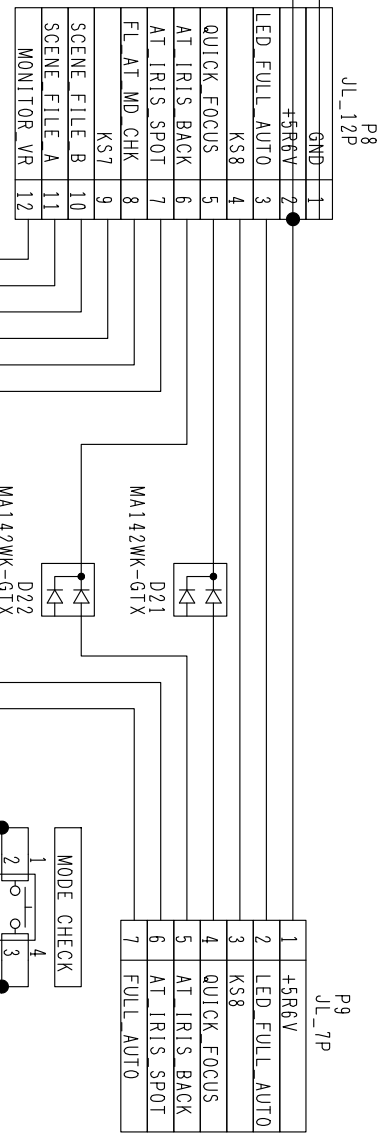
COMPONENT NAME	1394 JACK	01/01
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP80C09A	KR0Q19	
	SCM054	

PAT=PATTERN ONLY

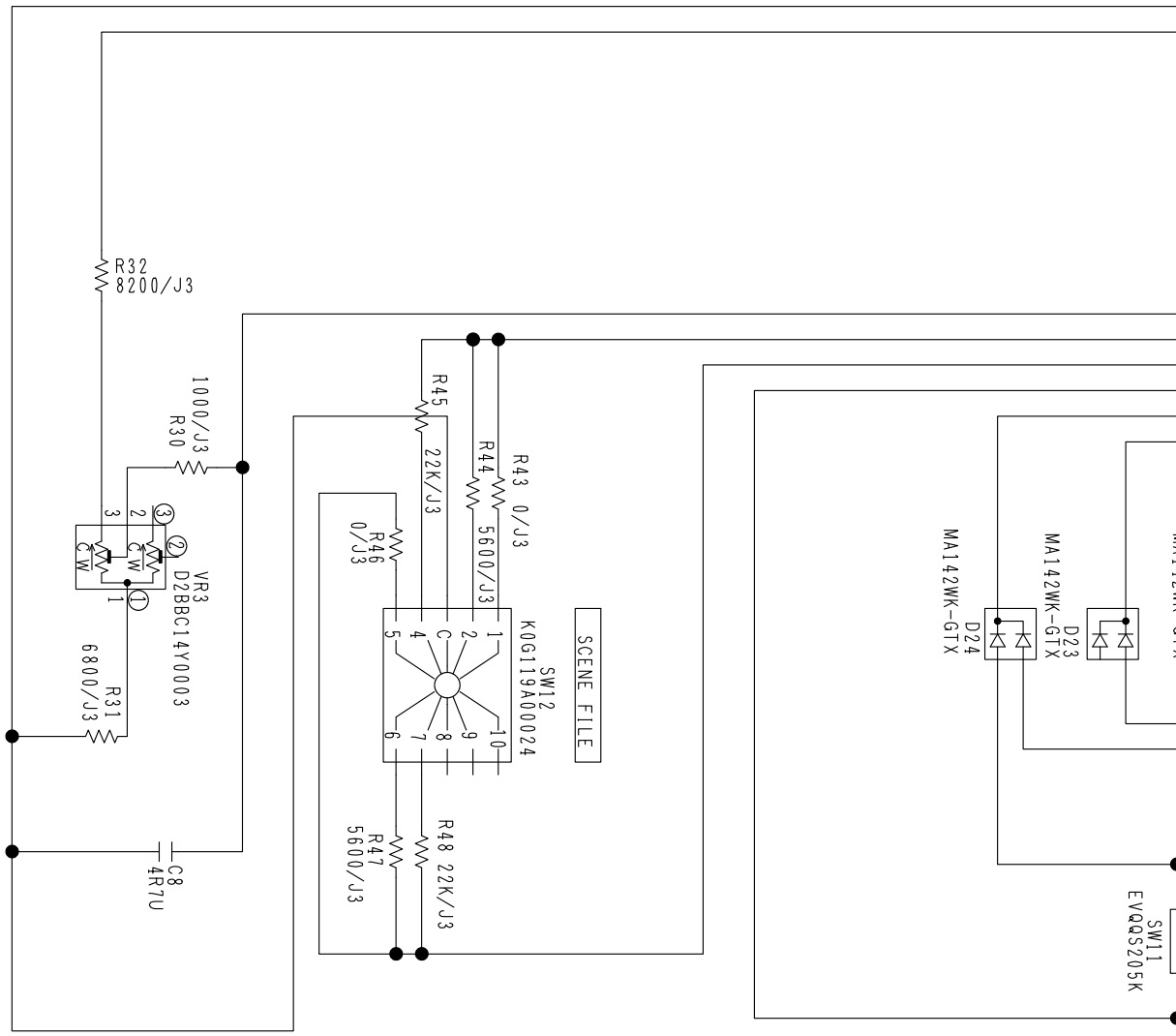


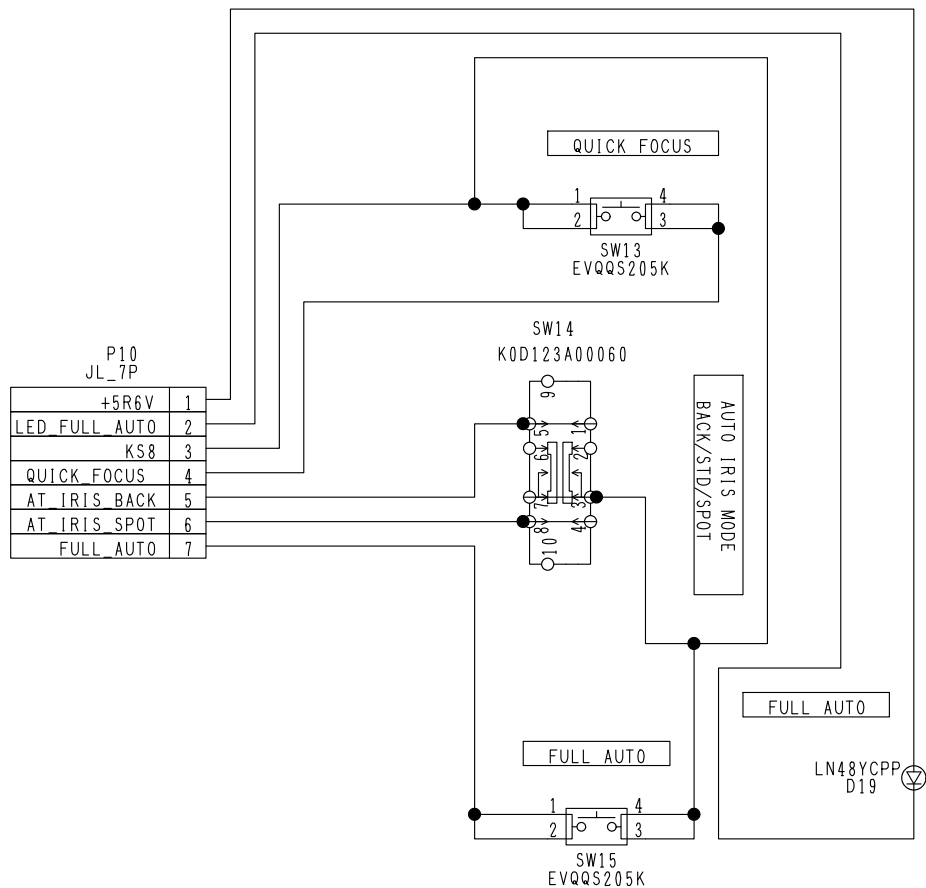
COMPONENT NAME		R_SIDE		01/01
CIRCUIT BOARD NO.		DRAWING NO.		
NTSC: VEP80B98A		KROQ05		
		SCM055		

A B C D E F G H I J

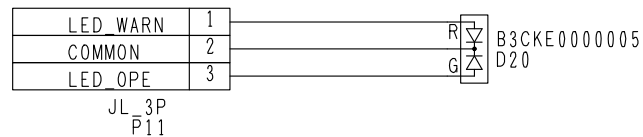


COMPONENT NAME	SCENE_FILE		01/01
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP80B99A		KR0Q06	
		SCM056	

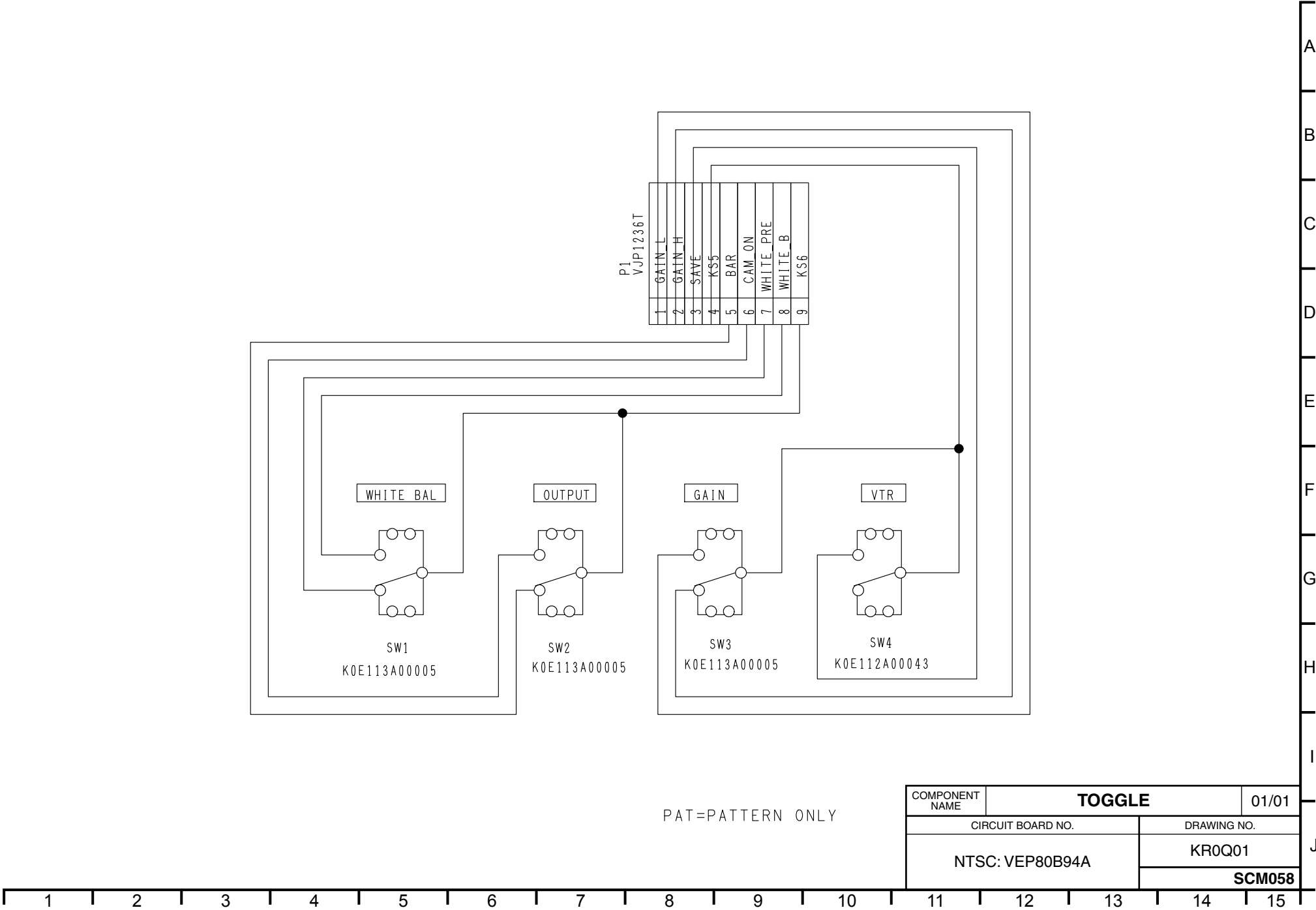


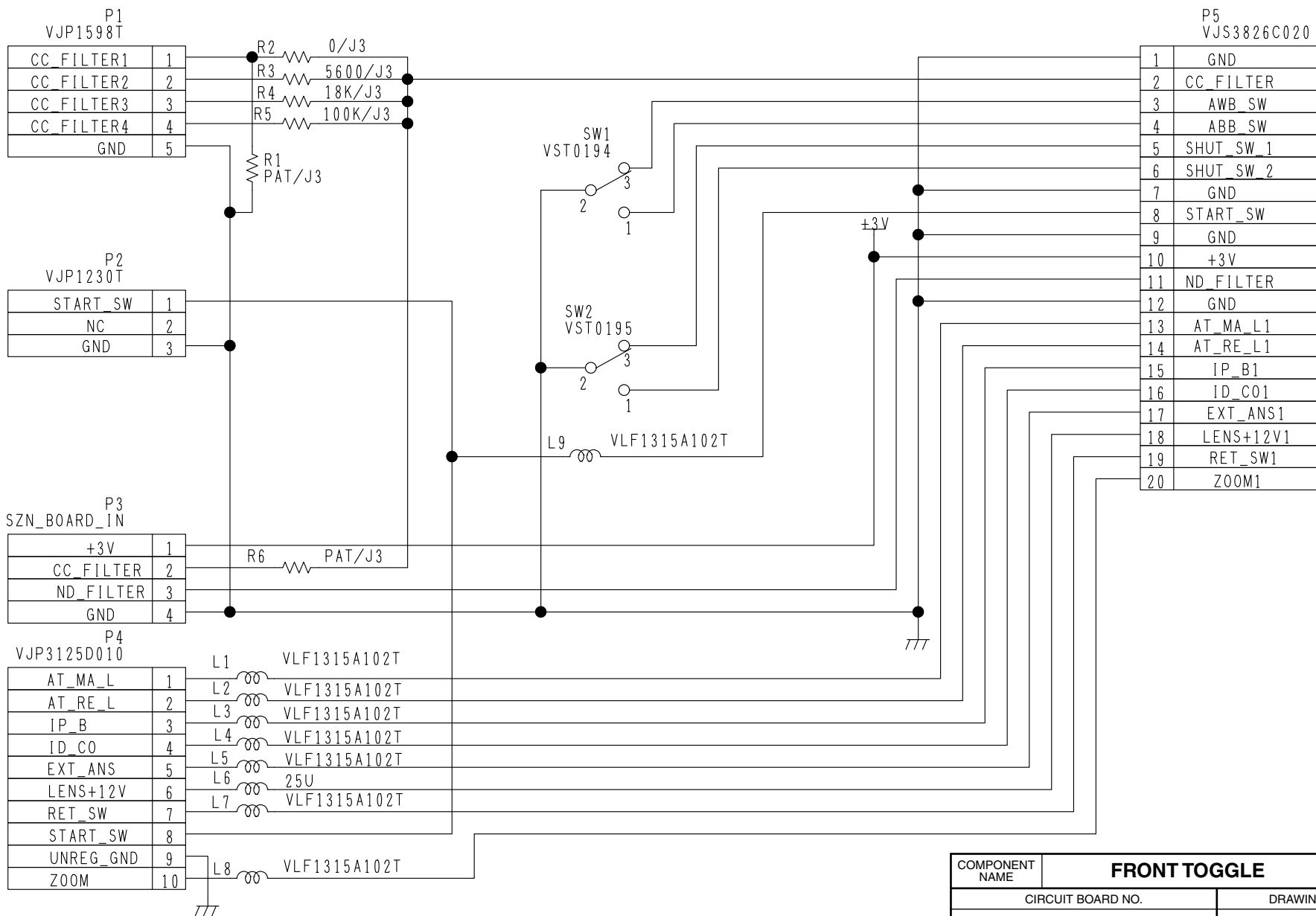


COMPONENT NAME	AUTO_IRIS		01/01
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP80C00A		KR0Q07	
		SCM057	



COMPONENT NAME	LED		01/01
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP80C01A		KR0Q08	
		SCM057	



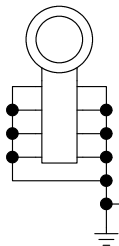


COMPONENT NAME	FRONT TOGGLE		01/01
CIRCUIT BOARD NO.		DRAWING NO.	
NTSC: VEP80C02A		KR0Q10	
		SCM059	

P1
VJP3125D007

MENU_PUSH	1
KS5	2
MENU_ON	3
KS1	4
GND	5
JOG_D1	6
JOG_D2	7

J1
VJR1094

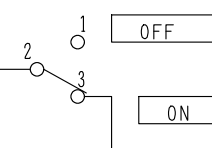


COMPONENT NAME	MENU_JOG	01/01
CIRCUIT BOARD NO.	DRAWING NO.	
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	SCM061	

P12
BI_2P

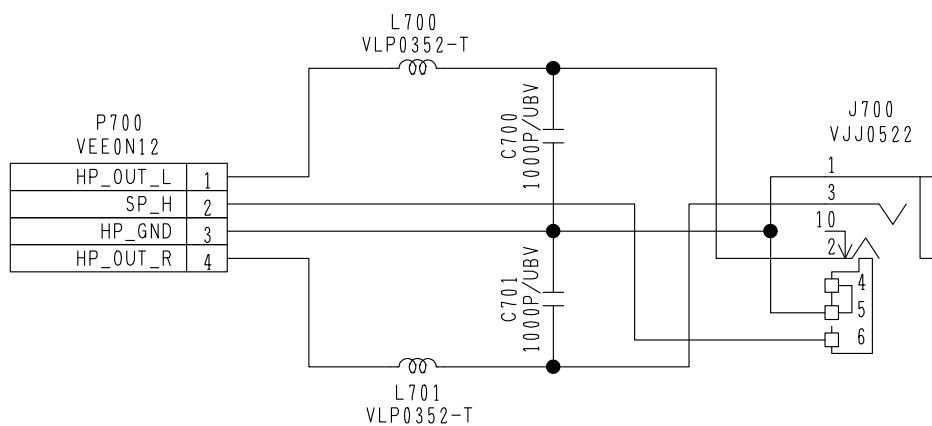
POWER_SW_OUT	2
POWER_SW_IN	1

SW16
K0E112G00001

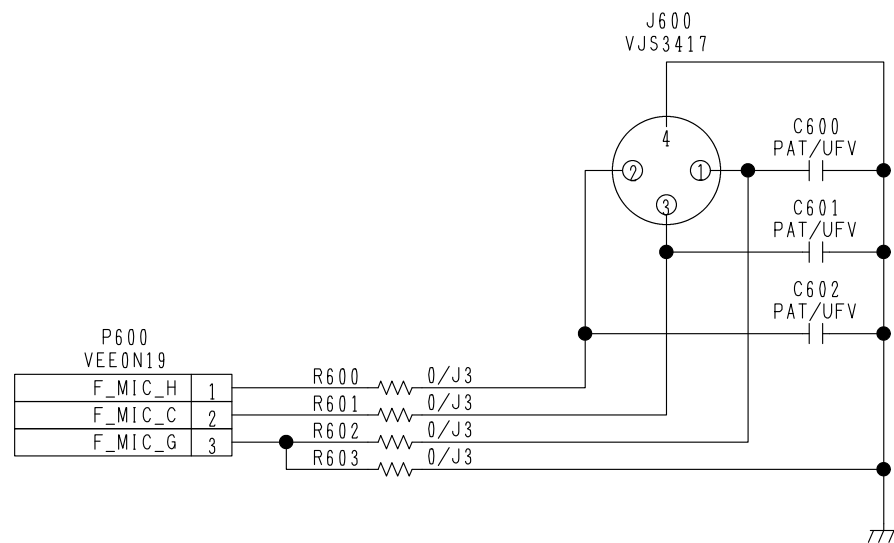


PAT=PATTERN ONLY

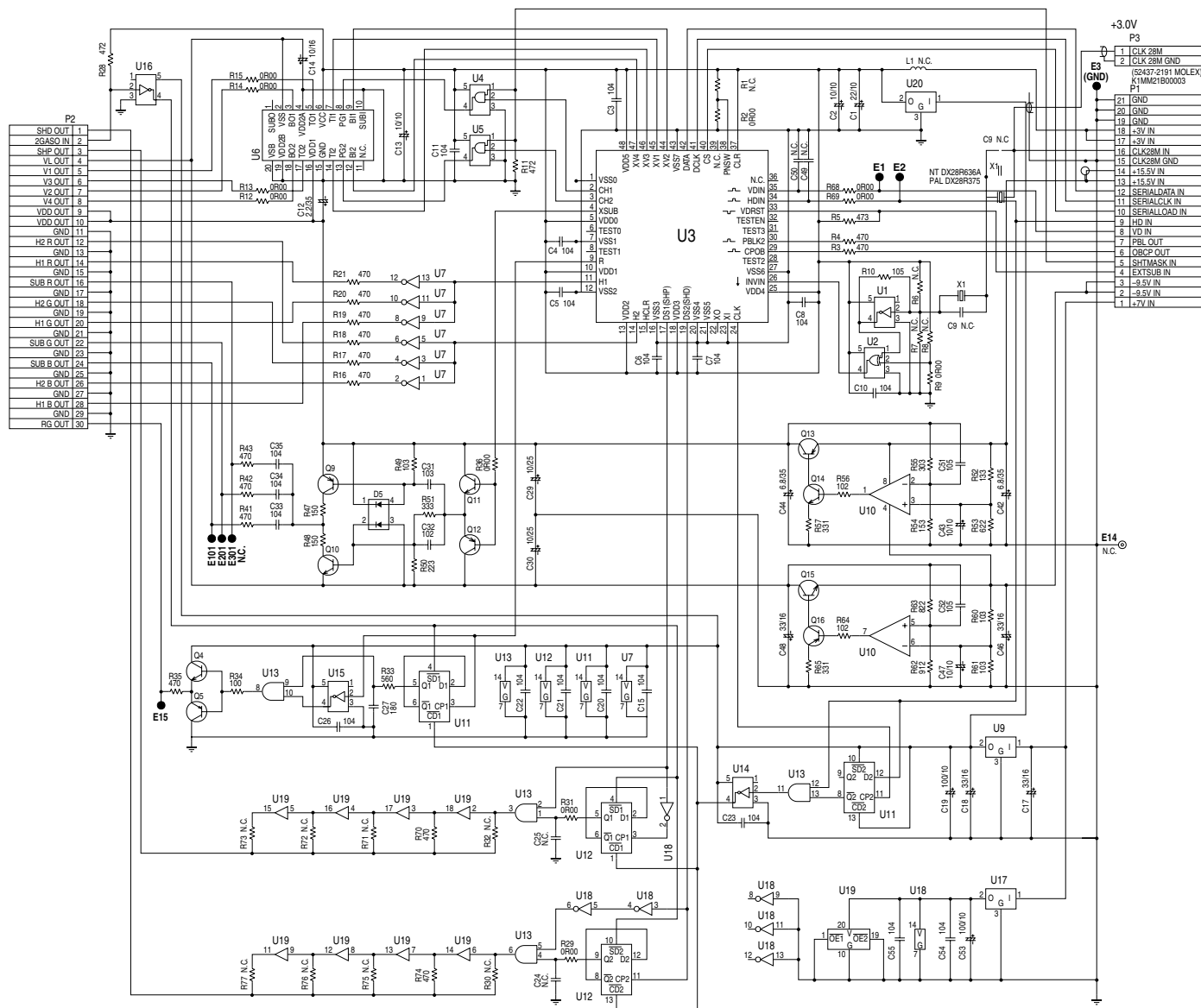
COMPONENT NAME	POWER_SW	01/01
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP80B97A	KR0Q04	
	SCM061	



COMPONENT NAME	HEAD_PHONE	01/01
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP000U0A	KR0Q63	
	SCM062	



COMPONENT NAME	FRONT_MIC	01/01
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP80C12A	KR0Q22	
	SCM062	



COMPONENT NAME	DRIVE	01/01
CIRCUIT BOARD NO.	DRAWING NO.	
NTSC: VEP02561A		
		SCM063

SECTION 7

CIRCUIT BOARD DIAGRAMS

NOTE:


DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

CAUTION

THE ☐ MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.

PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

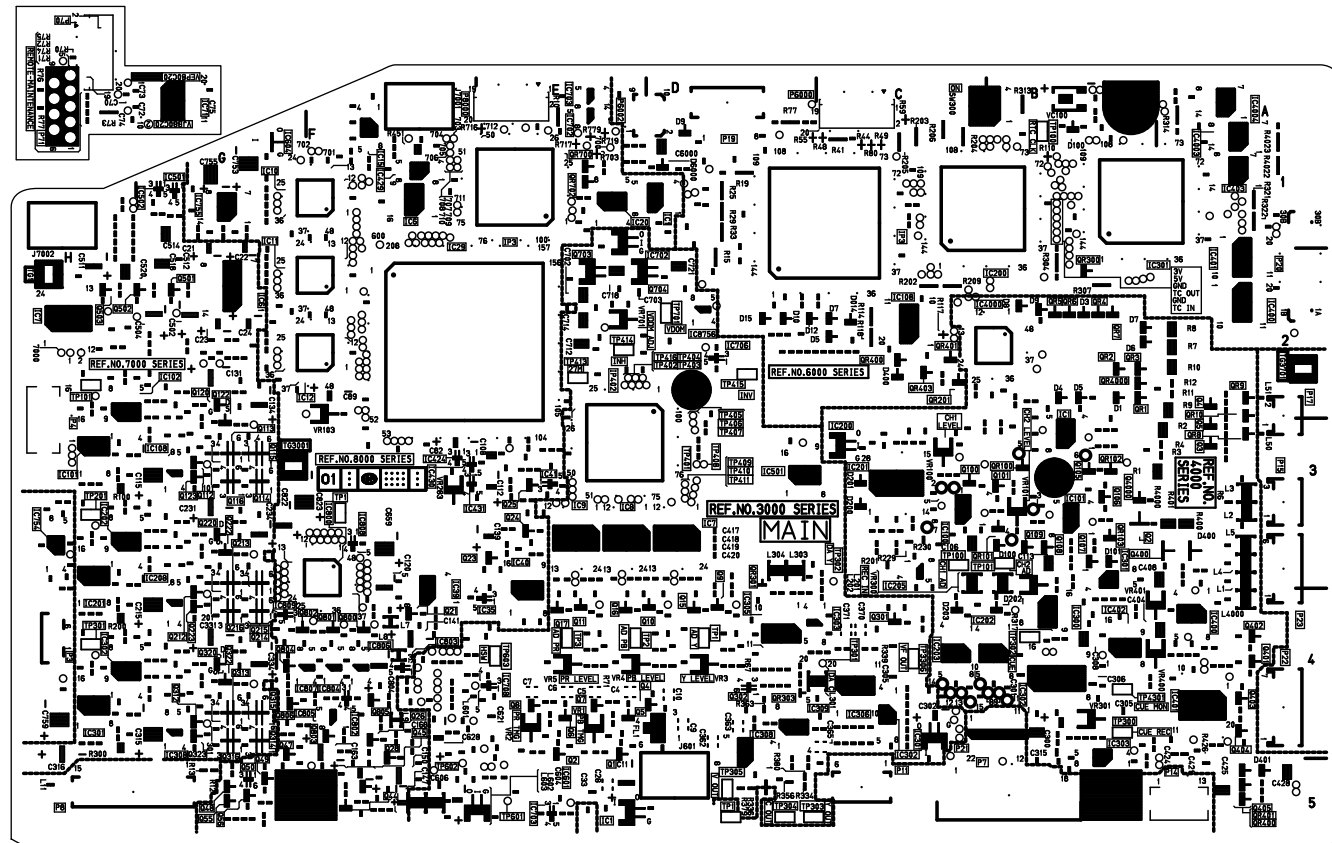
CONTENTS

MAIN C.B.A. (VEP83551A)	CBA-1
RF & SERVO C.B.A. (VEP82237A).....	CBA-3
VTR S/S C.B.A. (VEP80C03A).....	CBA-5
REAR JACK C.B.A. (VEP80C06A).....	CBA-5
AV OUT C.B.A. (VEP80C07A)	CBA-5
POWER C.B.A. (VEP81220A).....	CBA-6
1394 JACK C.B.A. (VEP80C09A)	CBA-7
SCENE FILE C.B.A. (VEP80B99)	CBA-7
R SIDE C.B.A. (VEP80B98A).....	CBA-8
AUTO IRIS C.B.A. (VEP80C00A).....	CBA-9
LED C.B.A. (VEP80C01A).....	CBA-9
POWER SW C.B.A. (VEP80B97A).....	CBA-9
TOGGLE SW C.B.A. (VEP80B94A).....	CBA-10
FRONT TOGGLE SW C.B.A. (VEP80C02A).....	CBA-10
MENU JOG C.B.A. (VEP80B96A).....	CBA-10
BREAKER C.B.A. (VEP80C08A)	CBA-11
HEAD PHONE C.B.A. (VEP000U0A).....	CBA-11
FRONT MIC C.B.A. (VEP80C12A).....	CBA-11

MAIN C.B.A (VEP83551A)

8P BUF SUB C.B.A (VEP000L8A)

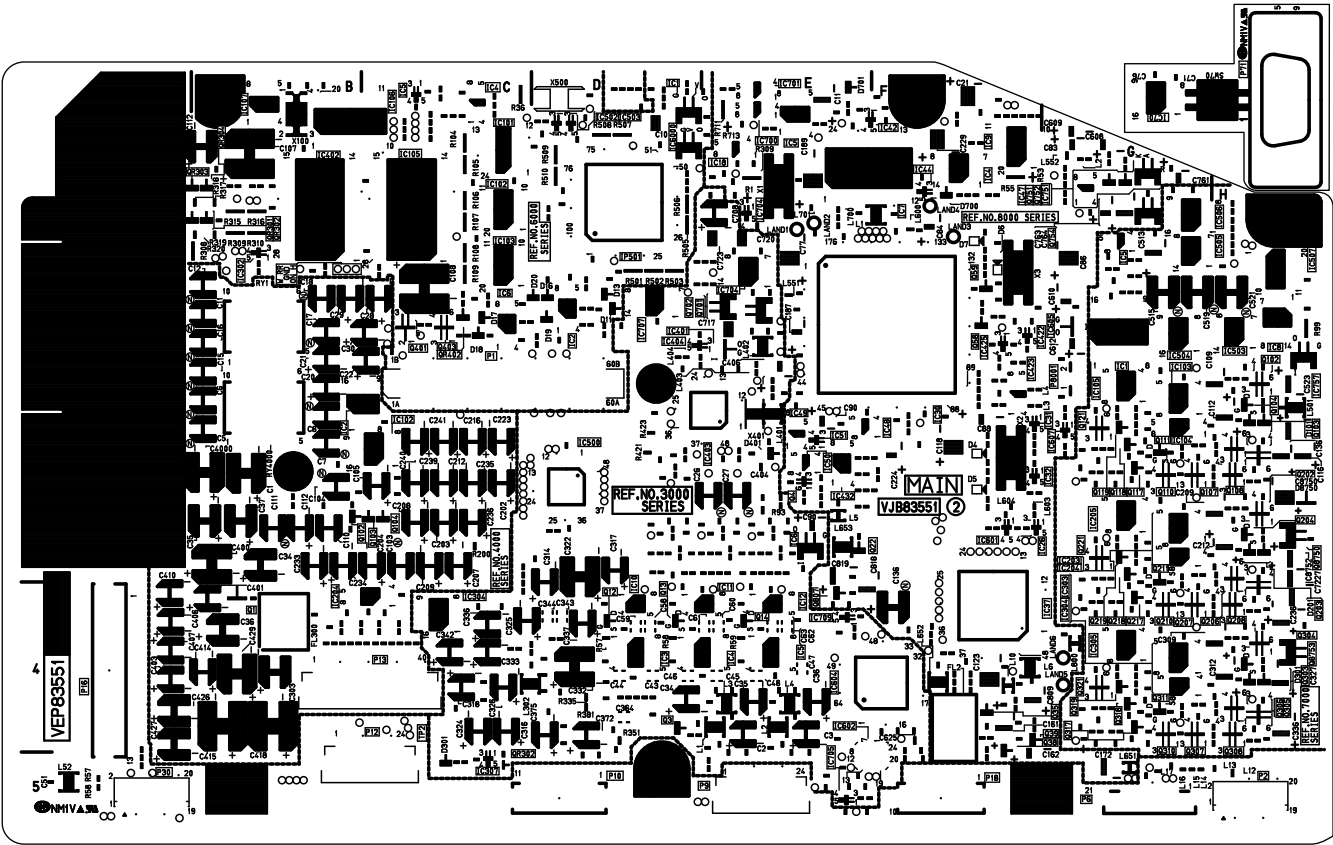
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IC3001	E26	IC4100	C3	IC7007	H2	IC8039	F4	P17	A2	Q3016	E4	Q4403	A4	Q7314	G4	Q8055	G26	QR4010	A2		
IC3007	D3	IC4101	B3	IC7101	H3	IC8041	E3	P19	D1	Q3017	E4	Q4404	A4	Q7315	G4	Q8056	G26	QR4100	B3		
IC3008	E3	IC4200	C3	IC7102	H2	IC8424	F3	P20	A2	Q3301	C4	Q4405	A26	Q7316	G4	Q8800	F4	QR4101	B3		
IC3009	E3	IC4201	C3	IC7108	G3	IC8430	F3	P21	B4	Q3302	D4	Q7112	G3	Q7320	G4	Q8801	F4	QR4102	B3		
IC3301	C4	IC4202	B4	IC7201	H3	IC8431	F3	P22	A4	Q3703	E2	Q7113	G3	Q7322	G4	Q8802	G4	QR4103	B3		
IC3302	C4	IC4203	C4	IC7202	H3	IC8604	G1	P23	A3	Q3704	E2	Q7114	G3	Q7323	G4	Q8803	F4	QR4400	A26		
IC3303	D4	IC4205	C3	IC7208	G4	IC8800	F3	P70	H1	Q4000	B3	Q7115	G3	Q7501	G2	Q8804	G4	QR4401	A26		
IC3305	D4	IC4300	B4	IC7301	H4	IC8802	F4	P8000	C1	Q4002	B3	Q7116	G3	Q7502	G2	Q8805	F4	QR6201	C2		
IC3306	C4	IC4301	B3	IC7302	H4	IC8803	F4	P8002	D1	Q4003	A3	Q7120	G2	Q7503	H2	Q8806	G4	QR8300	B2		
IC3308	D4	IC4302	B4	IC7308	G4	IC8808	F3	P8000	E1	Q4004	A2	Q7122	G3	Q8021	F4	QR3301	D3	QR6400	C2		
IC3309	D4	IC4303	B4	IC7501	G1	IC8809	G4	Q3001	E4	Q4005	A3	Q7123	G3	Q8023	E3	QR3303	D4	QR6401	C2		
IC3501	D3	IC4400	A4	IC7502	G1	IP3402	E3	Q3002	E4	Q4100	C3	Q7212	G4	Q8024	E3	QR4000	B2	QR6403	C2		
IC3601	E26	IC4401	A4	IC8001	D1	IP6003	C1	Q3004	D4	Q4101	B3	Q7213	G3	Q8025	E3	QR4001	B2	QR8700	E1		
IC3702	E1	IC4402	B4	IC8006	F1	IP8003	E1	Q3005	E4	Q4105	B3	Q7214	G4	Q8026	F4	QR4002	B2	QR8702	E1		
IC3703	E26	IC6108	C2	IC8010	F1	P3	H4	Q3006	E4	Q4106	B3	Q7215	G3	Q8028	F4	QR4003	B2				
IC3706	D2	IC6200	C1	IC8011	F2	P4	H3	Q3007	E4	Q4107	B3	Q7216	G4	Q8044	F26	QR4004	A2				
IC3708	E4	IC6301	B1	IC8012	F2	P7	B26	Q3008	E4	Q4108	B3	Q7220	G3	Q8045	F26	QR4005	B2				
IC4000	B2	IC6400	A2	IC8015	F1	P8	H26	Q3009	D4	Q4109	B3	Q7222	G3	Q8047	G4	QR4006	B2				
IC4001	B3	IC6401	A2	IC8020	E1	P11	C26	Q3010	D4	Q4400	A3	Q7223	G4	Q8048	G26	QR4007	B2				
IC4003	A1	IC6403	A1	IC8029	F2	P14	A26	Q3011	E4	Q4401	A4	Q7312	G4	Q8049	G26	QR4008	A3				



(FOIL SIDE)

MAIN C.B.A (VEP83551A) 8P BUF SUB C.B.A (VEP000L8A)

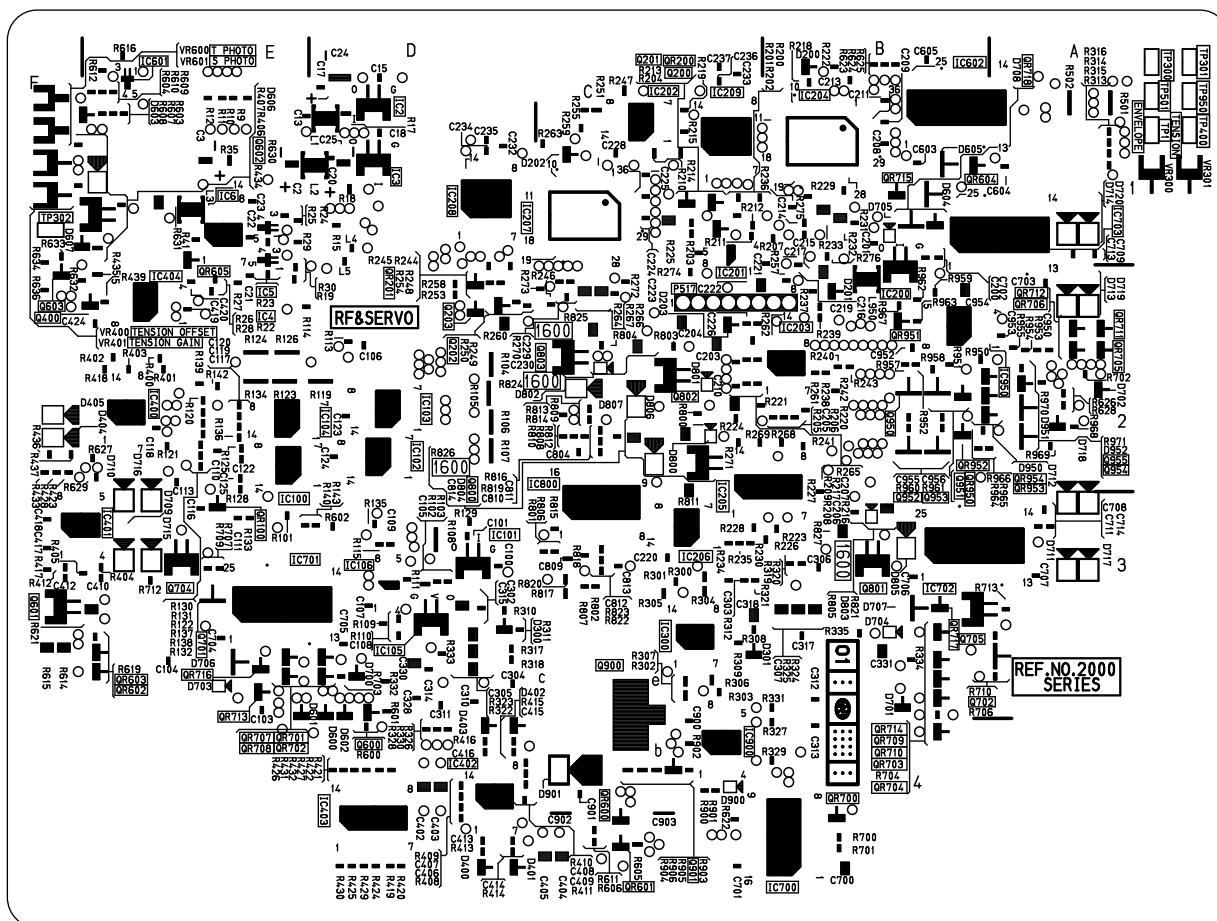
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IC3003	D4	IC4102	C3	IC7103	G2	IC8031	F3	IP8501	D1	Q4103	C3	Q7206	H3	Q7321	G4	TP2	C4		
IC3004	E4	IC4204	C4	IC7104	G3	IC8032	F3	P1	C2	Q4104	C3	Q7207	H4	Q8004	E3				
IC3005	E4	IC6000	D1	IC7105	G2	IC8037	F4	P2	H5	Q6401	C2	Q7208	H4	Q8022	E3				
IC3006	E3	IC6001	D1	IC7203	G3	IC8042	E1	P6	G5	Q6403	C2	Q7210	H4	Q8035	F4				
IC3010	D4	IC6002	D2	IC7204	G3	IC8044	F1	P9	E5	Q7102	H2	Q7211	G4	Q8038	F4				
IC3011	E4	IC6004	C1	IC7205	G3	IC8047	G1	P10	D5	Q7103	H3	Q7217	G4	Q8039	F4				
IC3012	E4	IC6005	C1	IC7303	G4	IC8048	E3	P12	C5	Q7104	H2	Q7218	G4	Q8058	F2				
IC3304	C4	IC6006	C2	IC7304	G4	IC8049	E3	P13	C4	Q7105	H3	Q7219	G3	Q8059	F2				
IC3307	C5	IC6101	C1	IC7305	G4	IC8050	E3	P16	A4	Q7106	H3	Q7221	G3	Q8750	H3				
IC3401	E2	IC6102	C1	IC7503	H2	IC8051	E3	P18	F5	Q7107	G3	Q7302	H4	Q8751	G1				
IC3403	E2	IC6103	C2	IC7504	G2	IC8422	F2	P30	A5	Q7108	H3	Q7303	H4	Q8752	G1				
IC3404	D2	IC6105	C1	IC7505	G2	IC8423	F2	P71	H1	Q7110	G3	Q7304	H4	Q8753	H4				
IC3500	D3	IC6106	B1	IC7506	G1	IC8425	F2	P8001	G2	Q7111	G3	Q7305	H4	Q8754	G1				
IC3602	E5	IC6107	B1	IC7507	H2	IC8432	E3	Q3003	D4	Q7117	G3	Q7306	H4	Q8807	E4				
IC3604	F4	IC6302	B2	IC8004	F1	IC8601	F3	Q3012	D4	Q7118	G3	Q7307	H4	Q88302	C5				
IC3701	E5	IC6402	B1	IC8005	F1	IC8605	G2	Q3013	D4	Q7119	G3	Q7308	H4	Q88301	B1				
IC3704	E2	IC6502	D1	IC8007	E1	IC8607	G3	Q3014	E4	Q7121	G3	Q7310	G4	Q88302	B1				
IC3705	E6	IC6503	D1	IC8009	F1	IC8700	E1	Q3701	E2	Q7202	H3	Q7311	G4	Q88303	B1				
IC3707	D2	IC7001	G2	IC8018	E1	IC8701	E1	Q3702	E2	Q7203	H3	Q7317	G4	Q88304	B1				
IC3709	E4	IC7005	G2	IC8026	F3	IC8704	E1	Q4001	B4	Q7204	H3	Q7318	G4	Q88402	C2				



(COMPONENT SIDE)

RF & SERVO C.B.A (VEP82237A)

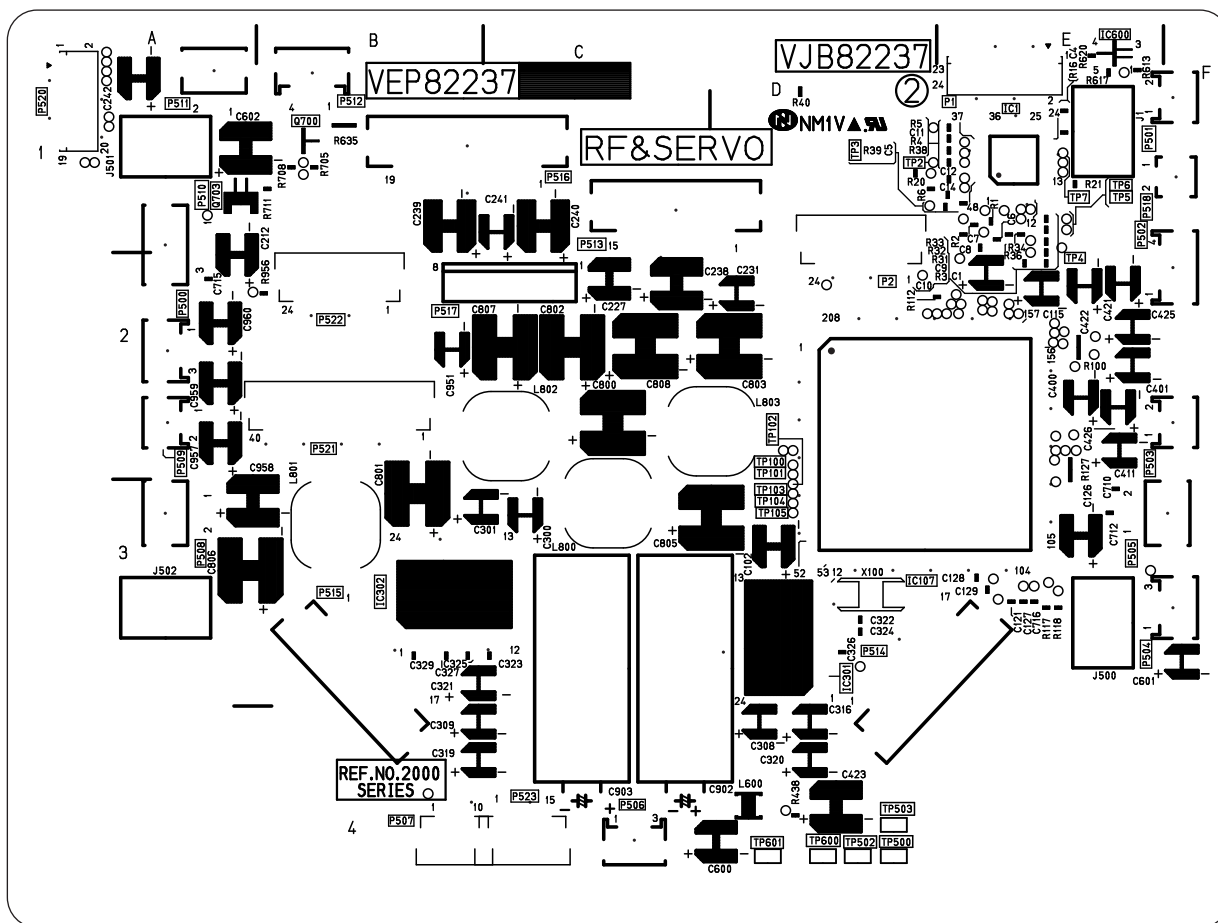
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IC3	D1	IC400	E2	Q603	F2	QR601	C26	QR717	B26
IC4	E1	IC401	F26	Q701	E26	QR602	E26	QR718	B1
IC5	E1	IC402	D26	Q702	A26	QR603	E26	QR950	B2
IC6	E1	IC403	D26	Q704	E26	QR604	B1	QR951	B2
IC100	E2	IC404	E2	Q705	B26	QR605	E1	QR952	B2
IC101	D26	IC601	E1	Q800	C2	QR700	B26	QR953	B2
IC102	D2	IC602	B1	Q801	B26	QR701	D26	QR954	B2
IC103	D2	IC700	B26	Q802	C2	QR702	D26	TP1	A1
IC104	E2	IC701	E26	Q803	C2	QR703	B26	TP300	A1
IC105	D26	IC702	B26	Q900	C26	QR704	B26	TP301	A1
IC106	D26	IC703	A1	Q901	C26	QR705	A2	TP302	F1
IC200	B2	IC800	C26	Q950	B2	QR706	A2	TP400	A1
IC201	C1	IC900	C26	Q951	B2	QR707	E26	TP501	A1
IC202	C1	IC950	B2	Q952	B2	QR708	E26	TP950	A1
IC203	B2	Q200	C1	Q953	B2	QR709	B26	VR300	A1
IC204	B1	Q201	C1	Q954	A2	QR710	B26	VR301	A1
IC205	B2	Q202	D2	Q955	A2	QR711	A2	VR400	F1
IC206	C26	Q203	D2	QR100	E26	QR712	A2	VR401	F1
IC207	C1	Q400	E2	QR200	C1	QR713	E26	VR600	F1
IC208	D1	Q600	D26	QR201	D2	QR714	B26	VR601	F1
IC209	C1	Q601	F26	QR202	C1	QR715	B1		



(FOIL SIDE)

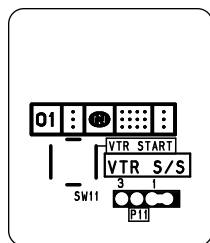
RF & SERVO C.B.A (VEP82237A)

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IC1	E1	P505	E3	P517	C2	TP7	E1
IC107	D2	P506	C3	P518	E1	TP100	D2
IC301	D3	P507	C3	P520	A1	TP101	D2
IC302	B3	P508	A3	P521	B2	TP102	D3
IC600	E1	P509	A2	P522	B2	TP103	D3
P1	E1	P510	A1	Q700	B1	TP104	D3
P2	D1	P511	A1	Q703	A1	TP105	D3
P500	A2	P512	B1	TP2	D1	TP500	D3
P501	E1	P513	C1	TP3	D1	TP502	D3
P502	E2	P514	D3	TP4	E1	TP503	D3
P503	E2	P515	B3	TP5	E1	TP600	D3
P504	E3	P516	B1	TP6	E1	TP601	D3

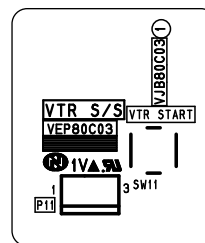


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VTR S/S C.B.A (VEP80C03A)

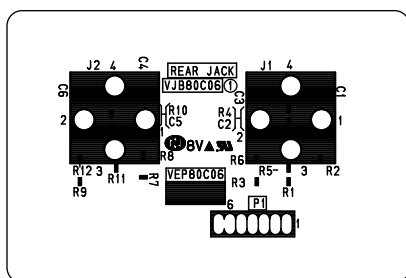


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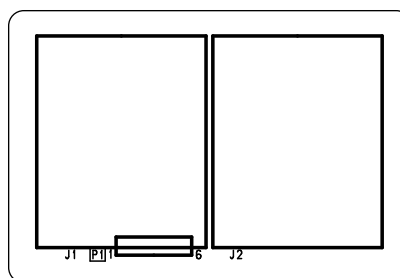


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REAR JACK C.B.A (VEP80C06A)

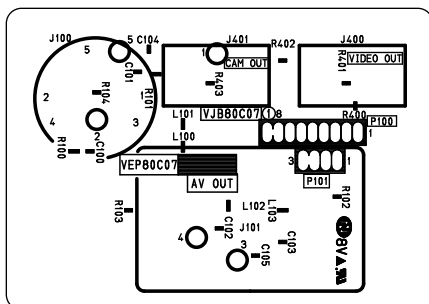


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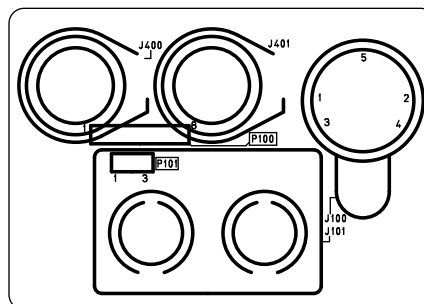


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AV OUT C.B.A (VEP80C07A)

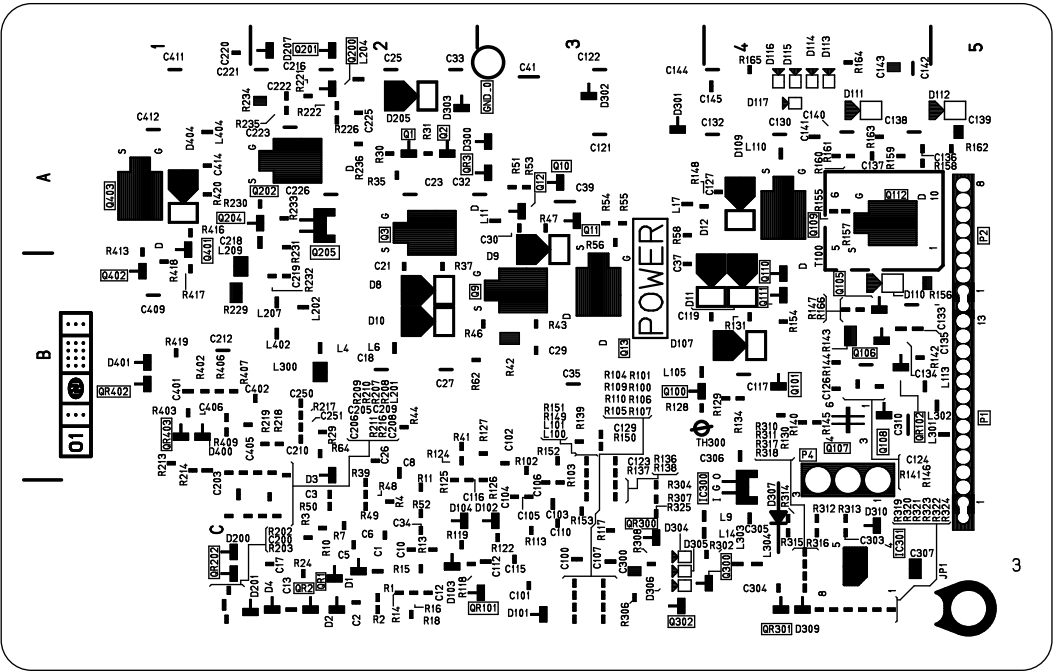


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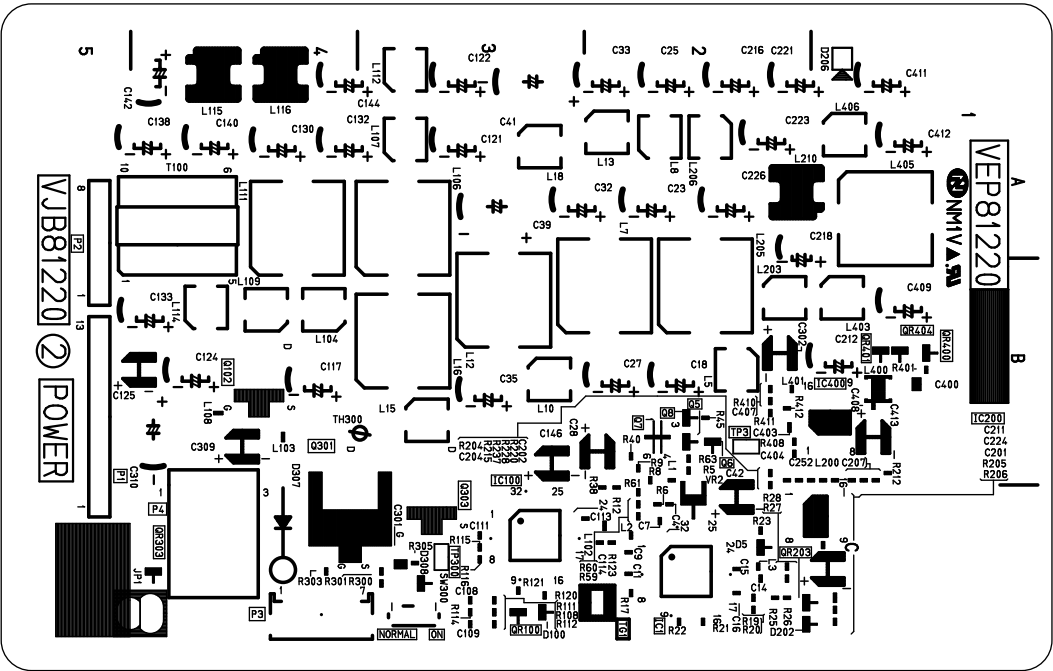
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POWER C.B.A (VEP81220A)



(FOIL SIDE)

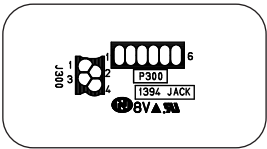
REF	LOC
IC300	C4
IC301	C4
Q1	C2
Q2	C2
Q3	C2
Q9	C3
Q10	C3
Q11	C3
Q12	C3
Q13	C3
Q100	C3
Q101	C4
Q105	C4
Q106	C4
Q107	C4
Q108	C4
Q109	C4
Q110	C4
Q111	C4
Q112	C4
Q200	C2
Q201	C2
Q202	C2
Q204	C2
Q205	C2
Q300	C4
Q302	C3
Q401	C1
Q402	C1
Q403	C1
QR1	C2
QR2	C2
QR3	C3
QR101	C3
QR102	C4
QR202	C1
QR300	C3
QR301	C4
QR402	C1
QR403	C1



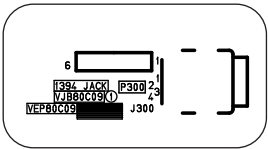
(COMPONENT SIDE)

REF	LOC
IC1	C2
IC100	C3
IC200	C1
IC400	B1
P1	C5
P2	B5
P3	C4
P4	C4
Q5	B2
Q6	B2
Q7	B2
Q8	B2
Q102	B4
Q301	C4
Q303	C3
QR100	C3
QR203	C2
QR303	C4
QR400	B1
QR401	B1
QR404	B1
SW300	C3
TG1	C2
TP3	B2
TP300	C3

1394 JACK C.B.A (VEP80C09A)

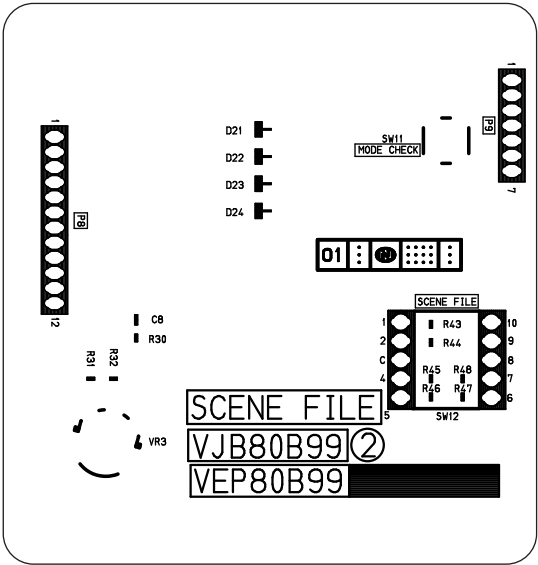


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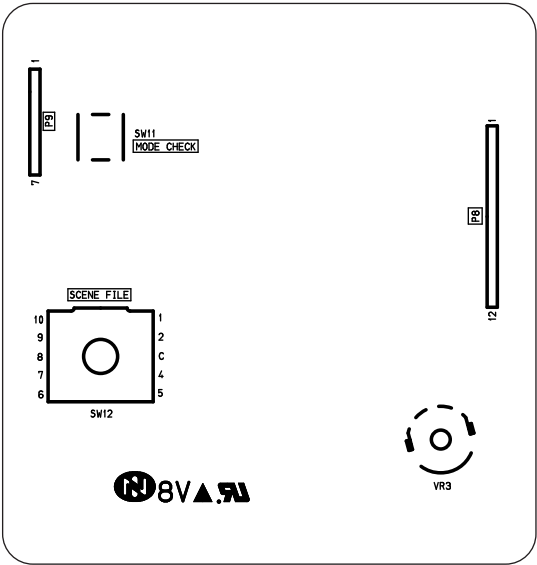


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SCENE FILE C.B.A (VEP80B99A)

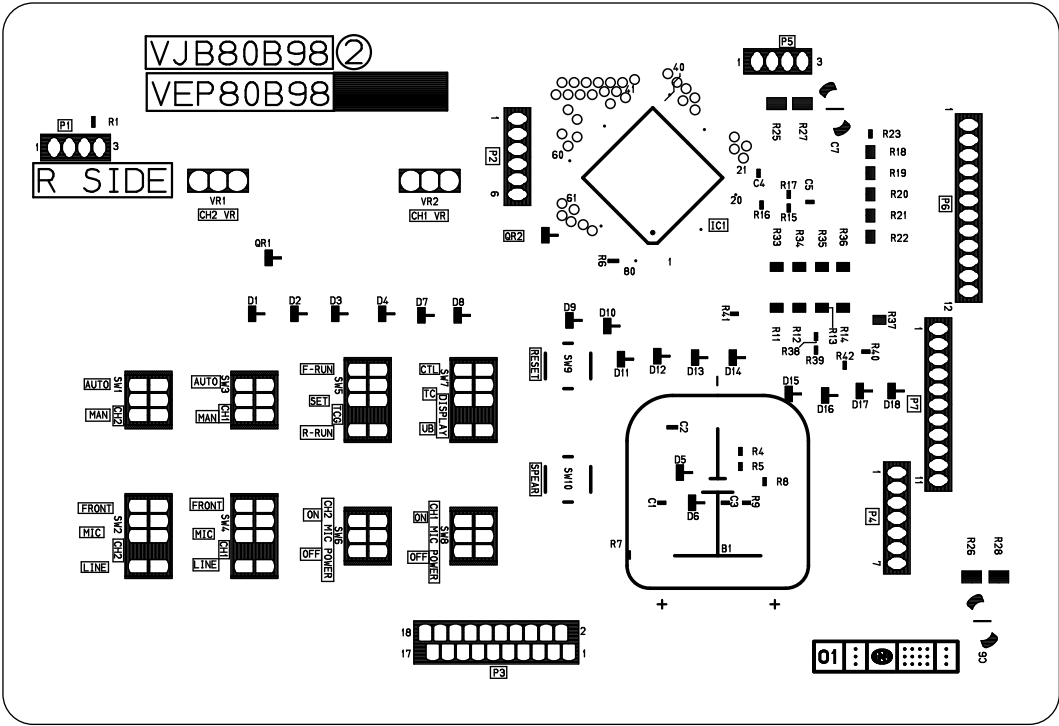


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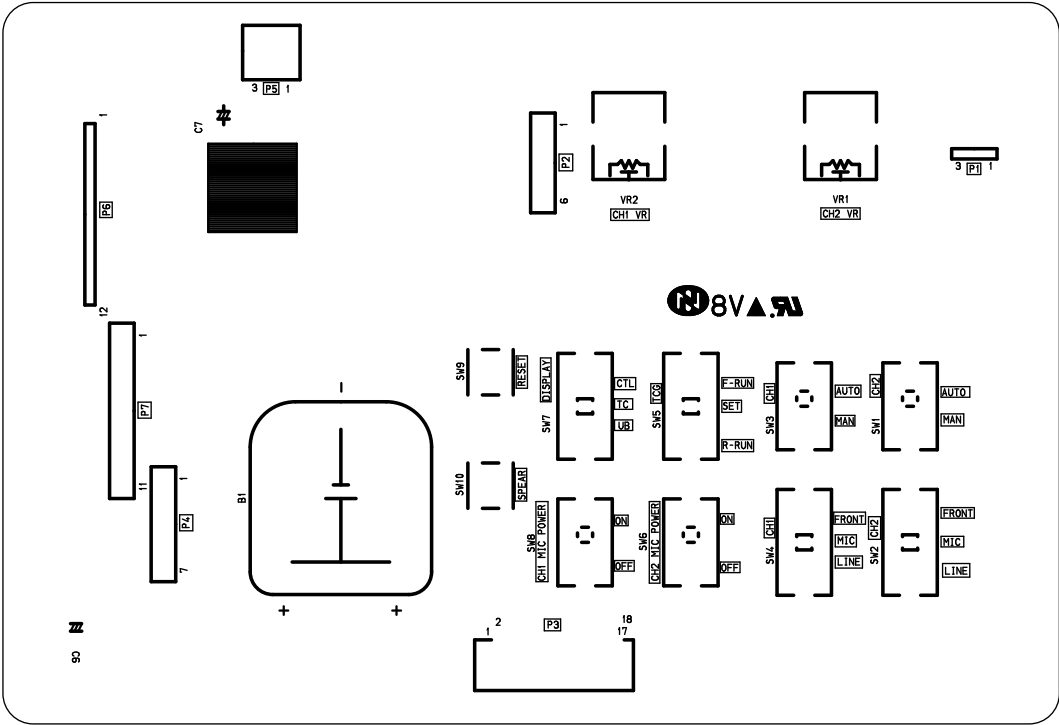
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R SIDE C.B.A (VEP80B98A)



REF	LOC
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QR1	G2
QR2	F2

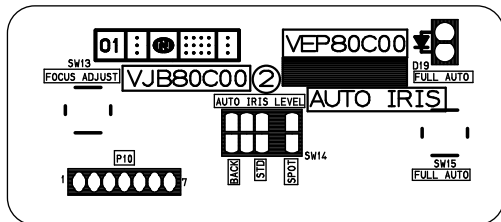
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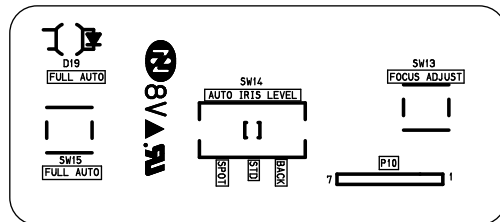
REF	LOC
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P3	F4
P4	E3
P5	F1
P6	D2
P7	D3
P8	D2
P9	B1
P10	B1
P11	H1
P12	B4
SW1	H3
SW2	H3
SW3	G3
SW4	G3
SW5	G3
SW6	G3
SW7	F3
SW8	F3
SW9	F3
SW10	F3
SW11	B2
SW12	B3
SW13	A1
SW14	A2
SW15	A3
SW16	A4
VR1	H2
VR2	G2
VR3	D3

(COMPONENT SIDE)

AUTO IRIS C.B.A (VEP80C00A)

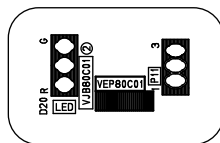


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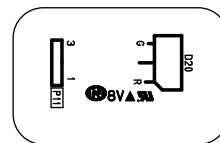


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SCENE FILE C.B.A (VEP80B99A)

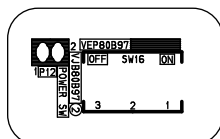


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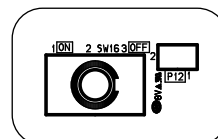


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POWER SW C.B.A (VEP80B97A)

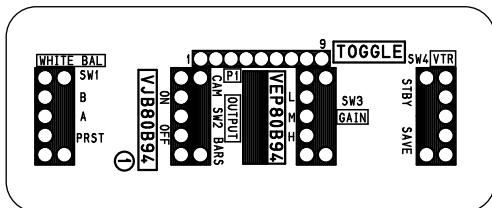


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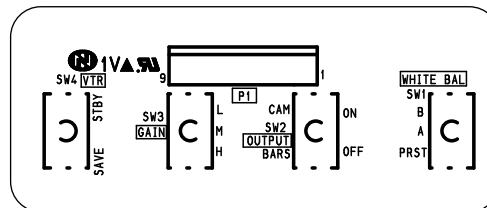


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TOGGLE SW C.B.A (VEP80B94A)

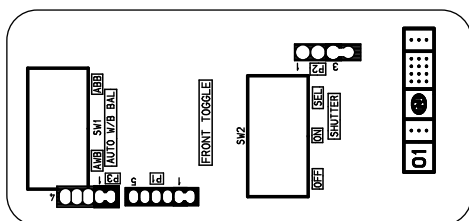


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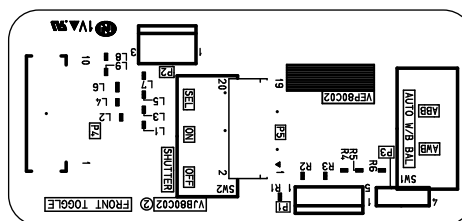


(COMPONENT SIDE)

FRONT TOGGLE SW C.B.A (VEP80C02A)

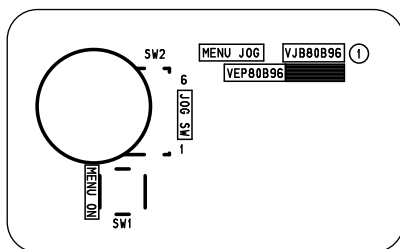


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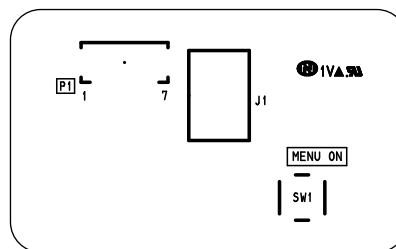


(COMPONENT SIDE)

MENU JOG C.B.A (VEP80B96A)

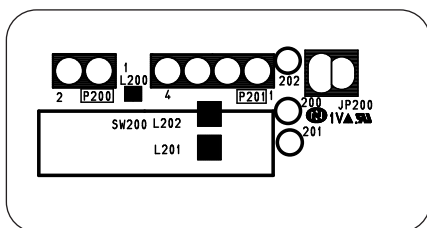


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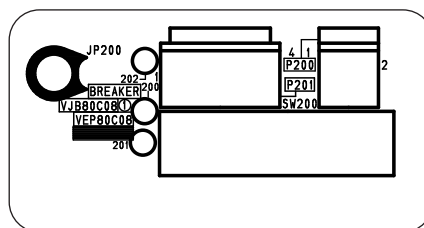


(COMPONENT SIDE)

BREAKER C.B.A (VEP80C08A)

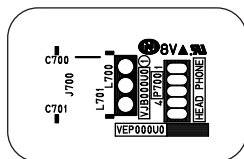


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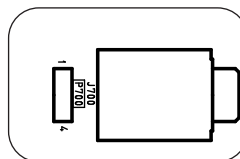


(COMPONENT SIDE)

HEAD PHONE C.B.A (VEP000U0A)

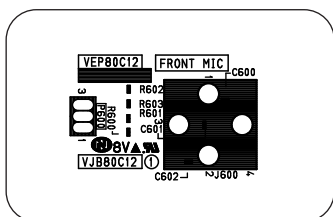


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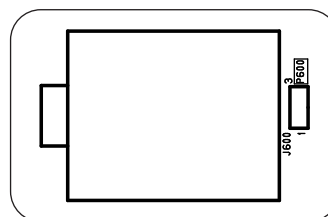


(COMPONENT SIDE)

FRONT MIC C.B.A (VEP80C12A)



(FOIL SIDE)



(COMPONENT SIDE)

SECTION 8

EXPLODED VIEWS & REPLACEMENT PARTS LIST

Note:

1. *Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS (μ F), P= μ F.
3. The P.C. Board untils marked with "■" shown below the main assembled parts.
4. The parts marked with (E) on the exploded view show the electric parts.
5. IMPORTANT SAFETY NOTICE
Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.
After the diacontinuation of this assembly in production, it will no longer be available.

CONTENTS

MECHANICAL CHASSIS ASSEMBLY (1)	PRT-1
MECHANICAL CHASSIS ASSEMBLY (2)	PRT-3
CHASSIS FRAME ASSEMBLY (1)	PRT-5
CHASSIS FRAME ASSEMBLY (2)	PRT-7
CASSETTE UP ASSEMBLY	PRT-9
PACKING PARTS ASSEMBLY	PRT-11
ELECTRICAL REPLACEMENT PARTS LIST	PRT-12

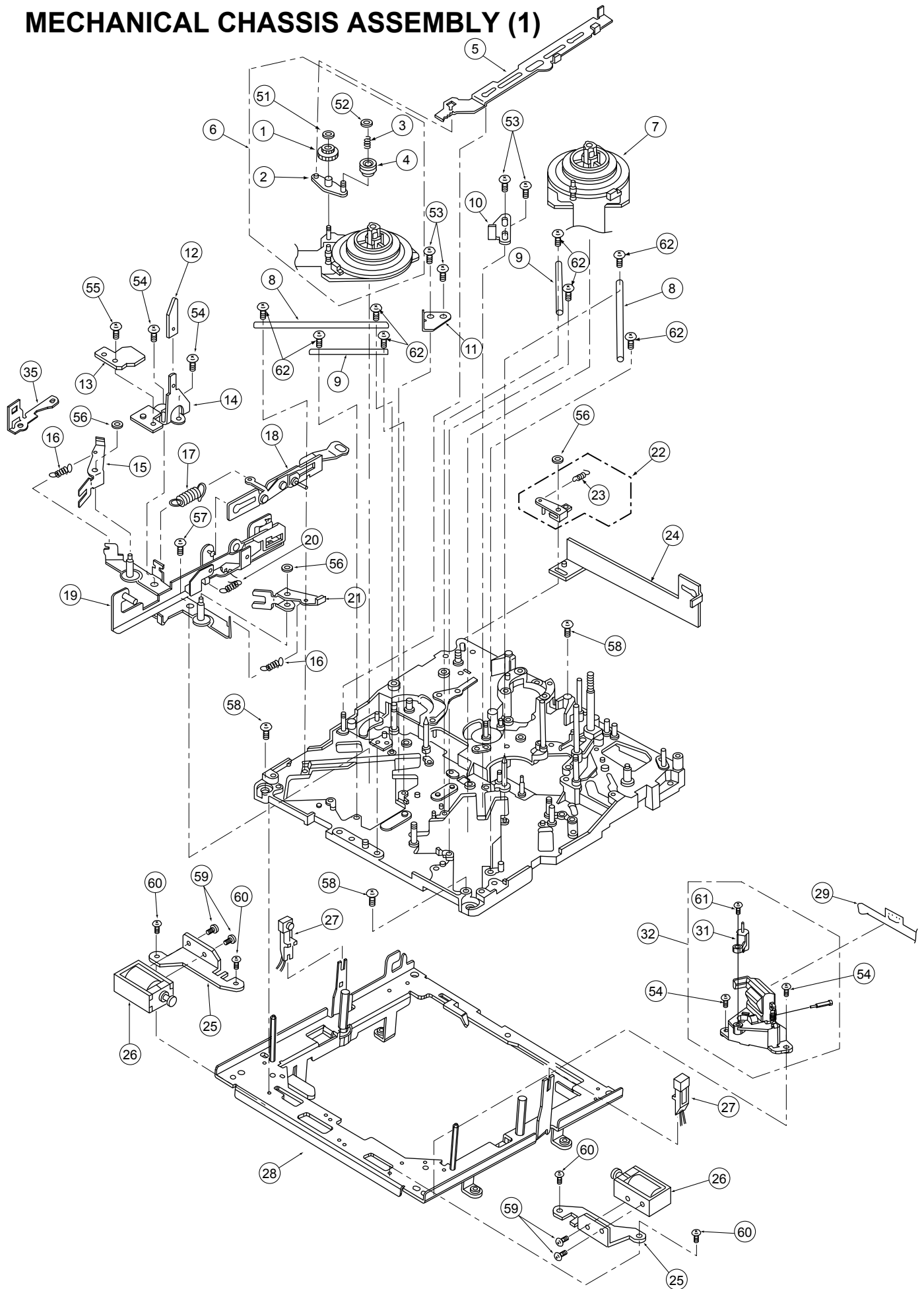
SERVICING FIXTURES & TOOLS

Ref.No	Part No.	Part Name & Description	Pcs	Remarks	Ref.No	Part No.	Part Name & Description	Pcs	Remarks
1	VFK1145A	BACK TENSION METER	1	(T2-M30-P)	19	VFK1147	PHILIPS DRIVER (FINE)	1	(0-100)
2	VFK1149A	POST DRIVER	1		20	VFK1148	HEX. DRIVER (1.5mm)	1	
3	VFK71A	DIAL TORQUE GAUGE	1	(1.5CN.m)150g	21	VFK1178	HEX. DRIVER (0.89mm)	1	
4	VFK1191A	DIAL TORQUE GAUGE	1	(0.45CN.m)45g	22	VFK1179	HEX. DRIVER (0.71mm)	1	
5	VFK1152	DIAL TORQUE GAUGE ADAPTOR	1		23	VFK1190	HEX. WRENCH	1	
6	VFK0357	ECCENTRIC SCREWDRIVER	1	(1.5mm)NEW	24	VFK1209A	TOQUE DRIVER (0.4-3Kg)	1	
7	VFK1692	POST HEIGHT FIXTURE	1		25	VFK0912	POST AXIS DRIVER (1.5mm)	1	
8	VFK1348	MECHANICAL NEUTRAL PLATE	1	(POST HEIGHT)L Cassette	26	VFK1300	A/D CONVERTER PAQ-12	1	(QUATECH)
9	VFK1155	MEUTRAL POSITION TOOL	1	(GOLD)	27	VFM3010EDL	ALIGNMENT TAPE (LISTA)	1	NEW
10	VFK1156	NEUTRAL POSITION TOOL	1	(BLACK)	28	VFM3000EDL	ALIGNMENT TAPE	1	(COLOR BAR)NEW
11	VFK1208	NEUTRAL POSITION TOOL	1	(BLACK w/HOLE)	29	AJ-CL12LP	CLEANING TAPE	1	SALES
12	VFK1150	NUT DRIVER (5.5mm)	1		30	VFK1481C	LISTA SOFTWARE	1	NEW
13	VFK1151	NUT DRIVER (2.5mm)	1		31	VFK1186	LISTA CABLE	1	
14	VFK1188A	DIAL TENSION GAUGE	1	(300mN)30g	32	VFK1409S	MEASURING BOARD	1	
15	VFK0948A	CHECK LIGHT	1						
16	VFK0749	FROIROL GREASE	1	(FOR PLASTIC)					
17	M0R265	MORYTONE GREASE	1	(FOR METAL)					
18	VFK1146	PHILIPS DRIVER (FINE)	1	(00-75)					

MECHANICAL CHASSIS ASSEMBLY (1)

[illegible]

MECHANICAL CHASSIS ASSEMBLY (1)

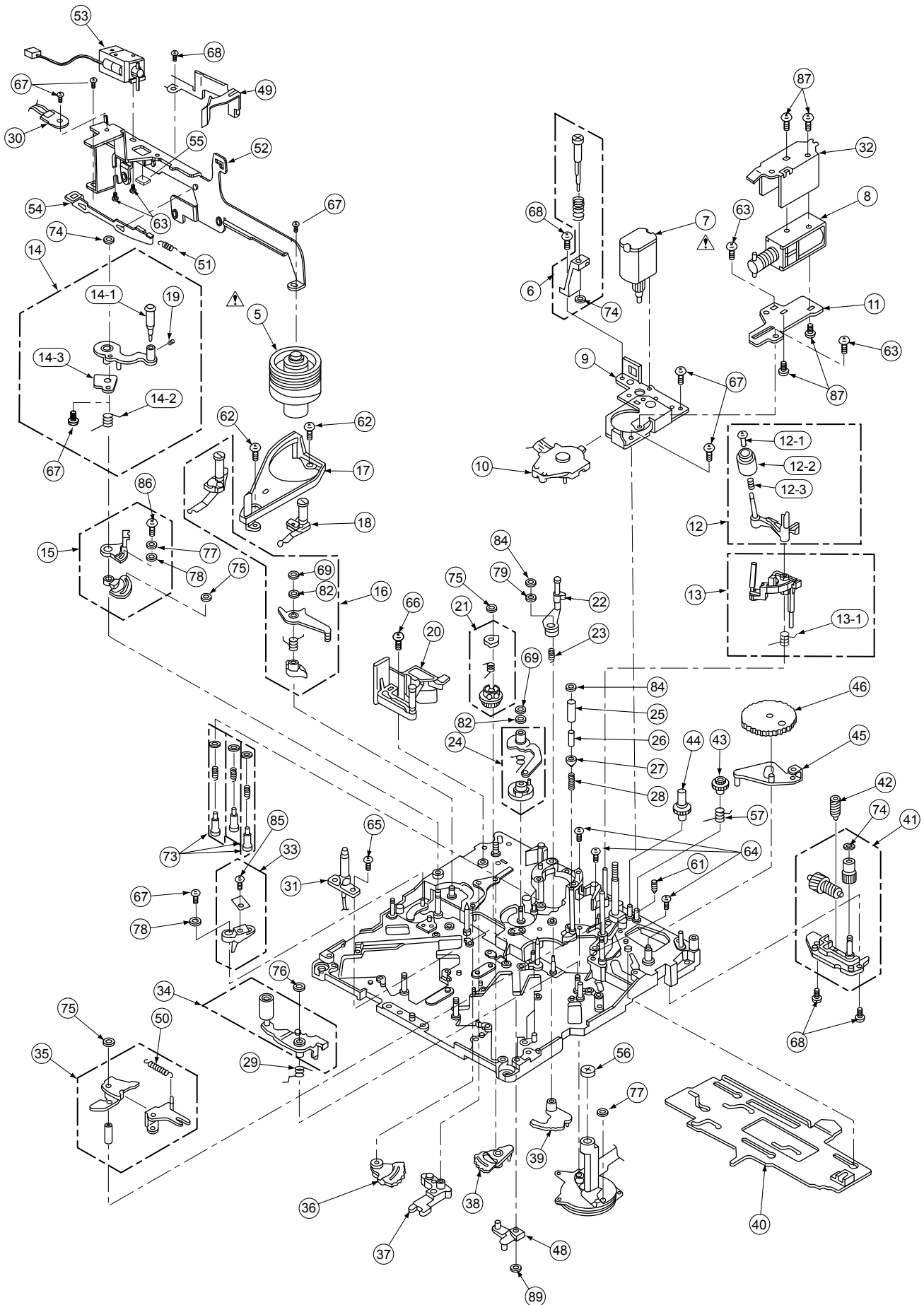


MECHANICAL CHASSIS ASSEMBLY (2)

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
5	VEG1561	CYLINDER UNIT	1	(M)
6	VXA5715C	SHAFT HOLDER ASS'	1	
7	VEM0645C	LOADING MOTOR (1) ASS'Y	1	
8	VSJ0227	PINCH SOLENOID	1	
9	VXA5584C	MOTOR ANGLE ASS'Y	1	
10	VES0918C	MODE SW ASS'Y	1	(M)
11	VMA0A35	PINCH SOLENOID BASE	1	
12	VXL3027C	CLEANING ARM ASS'Y	1	(M)
12-1	VMX2150	CLEANER ROLLER HOLDER	1	
12-2	VXP2057C	CLEANER ROLLER ASS'Y	1	
12-3	VMB3114	CLEANER ROLLER SPRING	1	
13	VXL2870C	T2 ARM ASS'Y	1	
13-1	VMB3304	T2 ARM SPRING	1	
14	VXL2831	TENSION ARM A ASS'Y	1	
14-1	VXP1761	TENSION ROLLER	1	
14-2	VMB3220	TENSION LEG SPRING	1	
14-3	VXA6173	MAGNET HOLDER ASS'Y	1	
15	VXA5791C	TENSION REG. SPRING HOOK	1	
16	VXL2709	S1 LOADING ARM ASS'Y	1	
17	VMD3731	LOADING RAIL	1	
18	VXA6378	T1 BOAT ASS'Y	1	
19	VHD0561	HEX SCREW	1	
20	VXA6052	S POST BASE A ASS'Y	1	
21	VXP1683C	T4 CONNECTION GEAR ASS'Y	1	
22	VXL2806	T4 ARM ASS'Y	1	
23	VMB2950	T4 THRUST SPRING	1	
24	VXL2952	T LOADING ARM ASS'Y	1	
29	VMB2933	PINCH RELEASE SPRING	1	
30	VEK7927	INSULATION SENSOR	1	EYHS77Y7
31	VEK7691	LED HOLDER ASS'Y	1	
32	VMA9411	PINCH SOLENOID ANGLE	1	
33	VXA5820C	TENSION SENSOR AS'Y	1	
34	VXL2835C	PINCH ARM ASS'Y	1	
35	VXL2588C	PINCH GUIDE ARM ASS'Y	1	
36	VXA5570C	T SECTOR GEAR ASS'Y	1	
37	VXL2838C	TENSION REG. GUIDE ARM	1	
38	VXA5567C	S SECTOR GEAR ASS'Y	1	
39	VXA5564C	T4 SECTOR GEAR ASS'Y	1	
40	VXA6348	MAIN ROD ASS'Y	1	
41	VXA5627C	THRUST SHAFT HOLDER ASS'Y	1	
42	VDG1166	MOTOR WARM GEAR	1	
43	VDG1443	EMARGENCY GEAR A	1	
44	VDG1444	MOTOR EMARGENCY GEAR B	1	
45	VXL2889C	MAIN CAM ARM ASS'Y	1	
46	VDG1168	MAIN CAM GEAR	1	
48	VXL2600C	EJECT ARM ASS'Y	1	
49	VMD4130	T1 GUIDE ASS'Y	1	
50	VMB2934	SPRING	1	
51	VMB3051	CLEANER RETURN SPRING	1	
52	VXA6843C	CLEANER BASE A ASS'Y	1	
53	VXA6078C	CLEANER SOLENOID ASS'Y	1	
54	VMM0429	CLEANER INTERLOCK	1	
55	VMT0871	SILENCER A	1	
56	VXQ0556	THRUST SCREW ASS'Y	1	(M)
57	VMB3192	E.E SPRING	1	
61	VHD0356	SCREW	1	
62	XQN2+A3	SCREW	1	
63	XQN2+A2	SCREW	1	
64	XQN2+A35FZ	SCREW	3	
65	XQN2+AM2	SCREW	3	
66	XQN2+CM4	SCREW	1	
67	XQN2+CF3	SCREW	11	
68	XQN2+CF4	SCREW	1	
69	XUC12FP	E-RING	2	
73	VXQ0439	SCREW	3	
74	VMX0967	CUT WASHER	2	
75	VMX1061	WASHER	3	
76	VMX1079	CUT WASHER	1	
77	XWA2B	WASHER	2	
78	XWE2	WASHER	1	
79	XWE16VW	WASHER	1	

Components identified with the mark ! have the special characteristics for safety.
When replacing any of these components, use only the same type.

MECHANICAL CHASSIS ASSEMBLY (2)

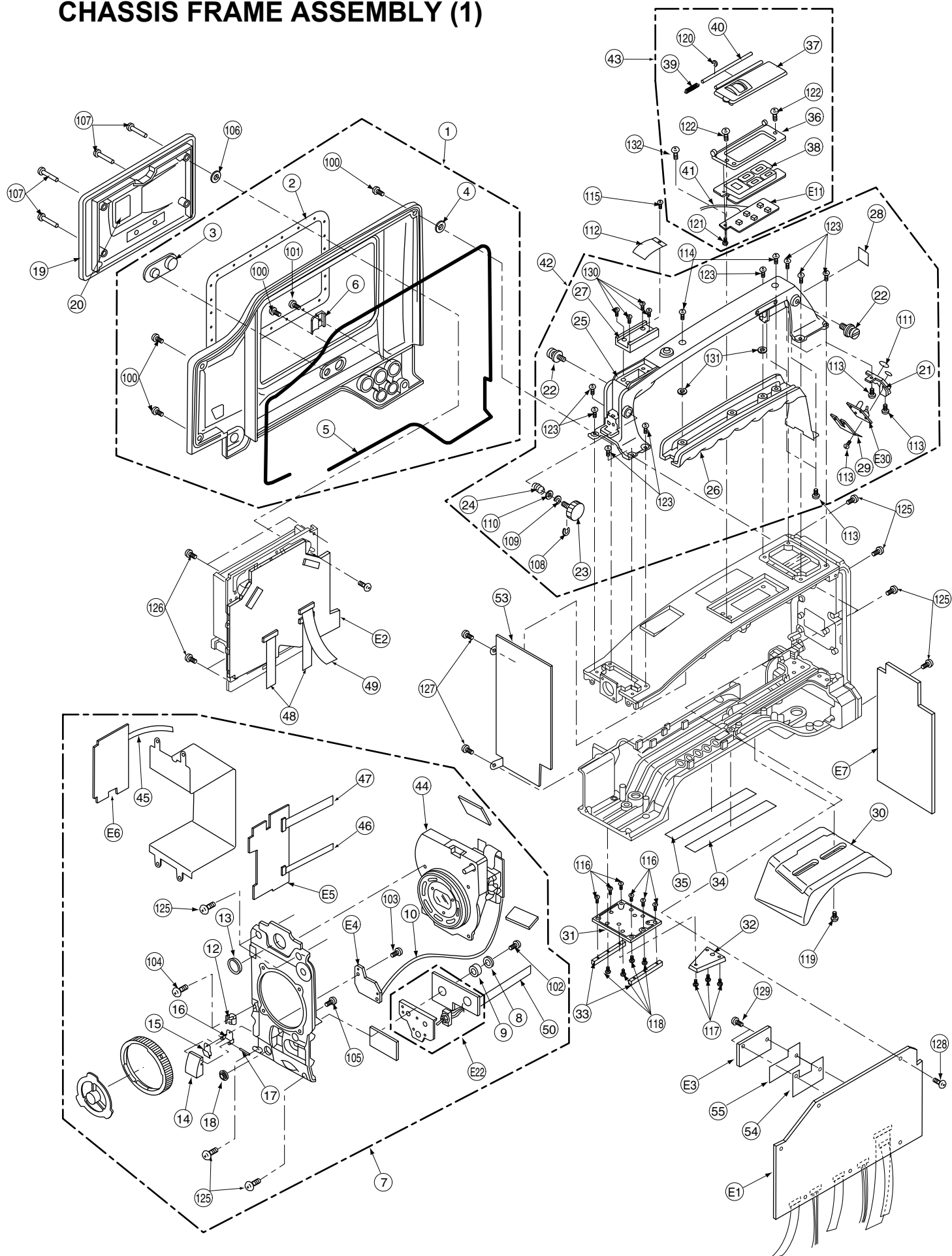


CHASSIS FRAME ASSEMBLY (1)

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VYP8107	SIDE CASE (L) ASS'Y	1	
2	VMG1316	CASSETTE WATERPROOF GUM	1	
3	VMG1270	E.E CAP	1	
4	VMX1558	NYLON WASHER	4	
5	VMG0832	SHIELD TUBE	1	
6	VJF0804	CABLE CLAMPER	1	
7	VYK9834	FRONT CASE (1) ASS'Y	1	
8	VMG0646	WATERPROOF SW INSULATION SHEET	2	
9	VMT0738	SW INSULATION CUSHION	2	
10	VEE0N28	VTR S/S CABLE	1	
11	VGM1781	FRONT CASE	1	
12	VJF1256	CABLE CLAMPER	2	
13	VMG0948	EVF RUBBER SHIELD	1	
14	VKF2485	FRONT DOOR	1	
15	VMC1210	FRONT DOOR SPRING	1	
16	VMP4850	FRONT DOOR ANGLE	1	
17	VMS4088	FRONT DOOR ANGLE PIN	1	
18	VGU6714	RUBBER BUSH KNOB	1	
19	VGM1788	CASSETTE COVER	1	
20	VKW2800	CASSETTE WINDOW	1	
21	VGL0783	TALLY COVER	1	
22	VMS4284	BELT HOOK PIN	2	
23	VGU7080	SIDE U LOCK KNOB	1	
24	VMB1615	SPRING	1	
25	VKH0400	HANDLE	1	
26	VKF3338	HANDLE COVER	1	
27	VJF1421	SHU	1	
28	VMP6835	HANDLE SPACER	1	
29	VMP6780	TALLY C.B.A. HOLDER ANGLE	1	
30	VMT1198	SHOULDER PAD	1	
31	VGM1277	FRONT FOOT BASE	1	
32	VGM1278	FRONT V EDGE	1	
33	VKA0299	FRONT FOOK	2	
34	VKN0159	BOTTOM NET	1	
35	VMT1200	BOTTOM CUSHION	1	
36	VGK2304Z	VTR OPERATION BASE	1	
37	VKF2817Z	VTR OPERATION DOOR	1	
38	VGU8218	VTR OPERATION BUTTON	1	
39	VMB2917	DOOR SPRING	1	
40	VMS5860	DOOR SHAFT	1	
41	VEE0N17	OPERATE CABLE	1	
42	VYH0292	HANDLE ASS'Y	1	
43	VYP8110	TOP PLATE OPERATION ASS'Y	1	
44	VEQ2452	CAMERA ASS'Y	1	
45	VWJ21E5140L0	FLAT CABLE	1	
46	VWJ06E5100L0	FLAT CABLE	1	
47	VWJ16E5080L0	FLAT CABLE	1	
48	VWJ24E5075L0	FLAT CABLE	2	
49	VWJ40E5095L0	FLAT CABLE	1	
50	VWJ20E5100L0	FLAT CABLE	1	
51	VWJ20E5120L0	FLAT CABLE	1	
52	VJF0456	BINDER	2	
53	VGf0891	BLIND PLATE	1	
54	VSC5265	VTR-SUB SHIELD PLATE	1	
55	VMZ3180	VTR-SUB INSULATION SHEET	1	
57	VGQ6174	BUTTON SUPPORTER	3	
58	VSC5244	JACK ELECTROSTATIC ANGLE	1	
100	XSB3+10FZ	SCREW	4	
101	XSB2+4FZ	SCREW	1	
102	XYN3+C6	SCREW	3	
103	XYN3+K6	SCREW	2	
104	XSB2+4FZ	SCREW	2	
105	XYN2+C4	SCREW	1	
106	VMX2605	WASHER	4	
107	XSB26+16FZ	SCREW	4	
108	XUC3FP	E-RING	1	
109	XWA4BFZ	WASHER	1	
110	XWE4FZ	WASHER	1	
111	VMG0956	P8 O-RING	1	
112	VMC1697	SPRING	1	
113	XYN2+F5	SCREW	7	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
114	XSB3+10FZ	SCREW	2	
115	XSN2+4FC	SCREW	1	
116	XTS26+6J	SCREW	6	
117	XSB4+6FC	SCREW	3	
118	XSS3+8FZ	SCREW	4	
119	XYN3+F8	SCREW	2	
120	XUC12VM	E-RING	1	
121	XYN26+K6	SCREW	18	
122	XSN2+6FZ	SCREW	2	
123	XSB3+8FZ	SCREW	8	
124	VHD0325	SCREW	2	
125	XSB3+8FZ	SCREW	8	
126	XYN3+K6	SCREW	4	
127	XYN26+C6	SCREW	8	
128	XYN26+F6FX	SCREW	4	
129	XYN26+K5	SCREW	2	
130	XSS2+6FZ	SCREW	4	
132	XTN2+4G	SCREW	1	
133	XTV2+4F	SCREW	8	
E1	VEP83551A	MAIN C.B.A.	1	
E2	VEP82237A	RF & SERVO C.B.A.	1	
E3	VEP83548A	VTR SUB C.B.A.	1	
E4	VEP80C03A	VTR_S/S C.B.A.	1	
E5	WE600PKY1A	PRE AMP C.B.A.	1	
E6	WE600PKF1B	DRIVE C.B.A.	1	
E7	VEP81220A	POWER C.B.A.	1	
E11	VEP86149A	OPERATE C.B.A.	1	
E22	VEP80C02A	FRONT TOGGLE SW C.B.A.	1	
E30	VEP80A74B	BACK TALLY C.B.A.	1	

CHASSIS FRAME ASSEMBLY (1)

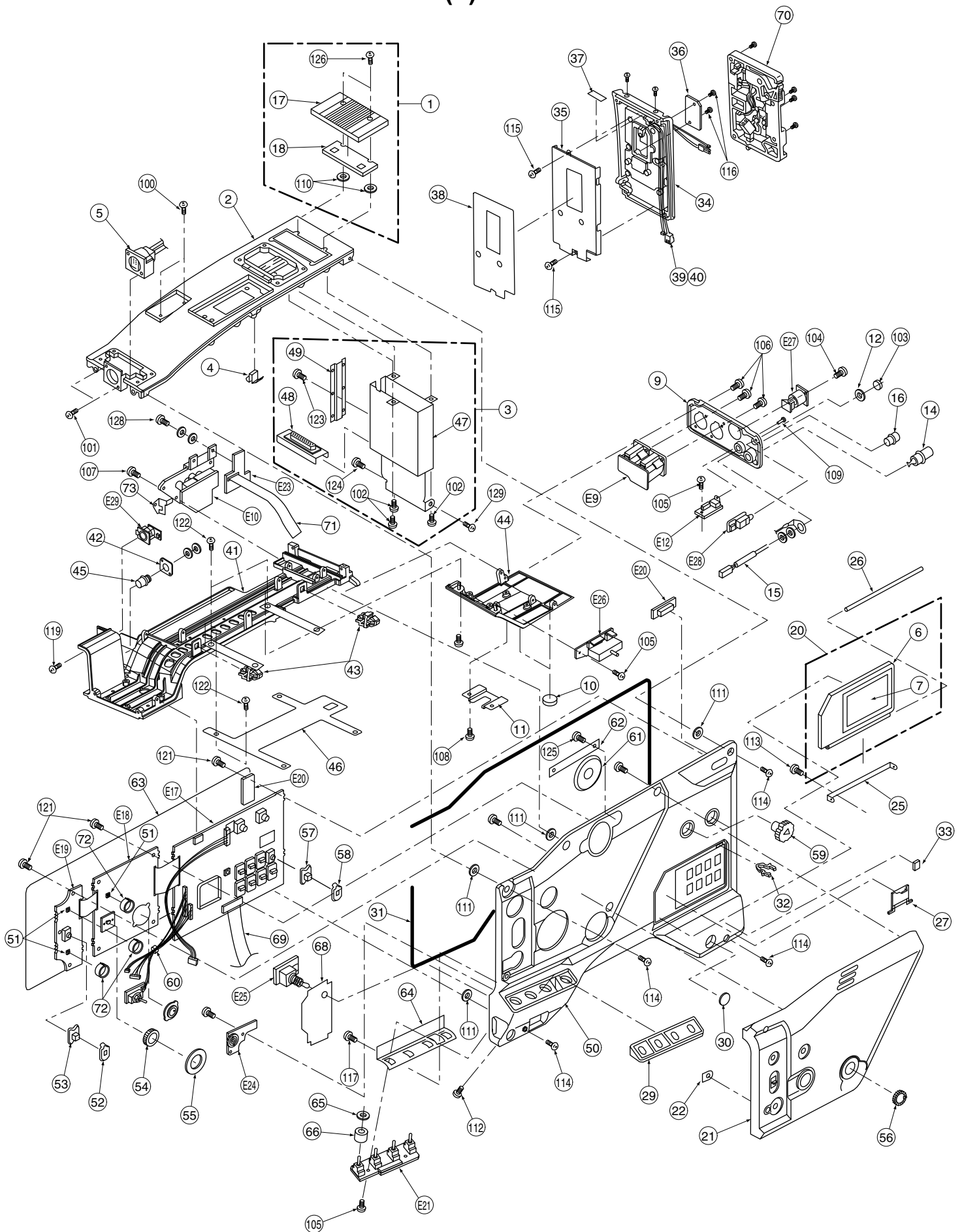


CHASSIS FRAME ASSEMBLY (2)

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VYF2757	RECEIVER COVER ASS'Y	1	
2	VGM1782	TOP CASE	1	
3	VXA6994	RECEIVER BOX ASS'Y	1	
4	VJF0909	CABLE CLAMPER	1	
5	VEE0N18	VE CABLE	1	
9	VGM1785	JACK CASE	1	
10	VMG0954	REAR FOOT	2	
11	VMP6370	BACK LOCK ANGLE	1	
12	VMX0531	CLATCH SPACER	1	
14	VJJ0091	BNC JACK	1	
15	VEE0N27	GELOCK CABLE	1	
16	VEE0N26	DC OUT CABLE	1	
17	VGFO885	RECEIVER COVER	1	
18	VMG1378	WATERPROOF RUBBER	1	
19	VGM1787	SIDE CASE (R)	1	
20	VYF2756	OPERATION DOOR ASS'Y	1	
21	VMT1199	FACE PAD	1	
22	VGL0924	LED SPRING LIGHT	1	
23	VGU7698	OPERATION BUTTON	2	
24	VMG1093	RAIN COVER RUBBER (B)	2	
25	VMP6782	DOOR FIX ANGLE	1	
26	VMS5520	OPERATION DOOR SHAFT	1	
27	VFK3340	BATTERY HOLDER DOOR	1	
30	VMG0643	BRAKER CAP	1	
32	VGQ0550	HOLDER	1	
34	VGM1783	BACK CASE	1	
35	VSC5208	BACK CASE COVER	1	
36	VGFO709	BACK CASE CAP	1	
37	VGFO890	BATTERY CABLE HOLD PLATE	1	
38	VMZ3150	INSULATION SHEET	1	
39	VEE0N08	BATT CABLE	1	
40	VEE0N16	ANTON CABLE	1	
41	VGM1784	BOTTOM CASE	1	
42	VMP4853	LENS CONNECTOR PLATE	1	
43	VJF1309	PIERCE HOLDER	2	
44	VEJ1983	JACK CASE ASS'Y	1	
45	VEE0N09	LENS CABLE	1	
46	VKC0584	SIDE R HINGE SHEET	1	
47	VMP6776	RECEUVER BOX (A)	1	
48	VMP6777	RECEUVER BOX (B)	1	
49	VMP6778	RECEUVER BOX (C)	1	
50	VYP8106	SIDE CASE (R) 1 ASS'Y	1	
51	VGU7081	OPERATION BUTTON	3	
52	VGU8843	IRIS LEVEL KNOB	1	
53	VMG1379	IRIS LEVEL KNOB RUBBER	1	
54	VGU8844	SCENE FILE KNOB	1	
55	VMG1380	SCENE FILE KNOB RUBBER	1	
56	VGU7077	VR KONB A	1	
57	VGU7688	SLIDE SW COVER	8	
58	VQL0L39	SLIDE SW SHEET	8	
59	VGU6512	VR KNOB	2	
60	VMP3332	CODE CLAMPER	1	
61	VEK9293	SPEAKER ASS'Y	1	
62	VJF1158	CLAMPER	1	
63	VMZ3134	INSULATION SHEET	1	
64	VSC5250	SIDE R EARTH ANGLE	1	
65	VMG0646	WATERPROOF SW INSULATION SHEET	4	
66	VMTO738	SW INSULATION CUSHION	4	
68	VMZ3168	POWER_SW INSULATION SHEET	1	
69	VWJ18C2140L0	FLAT CABLE	1	
70	VJF1347	ANTON BATTERY ADAPTOR	1	
71	VWJ20E5120L0	FLAT CABLE	1	
72	VSC5273	SHIELD ANGLE	1	
100	XSB4+4FZ	SCREW	2	
101	XSS2+4FZ	SCREW	2	
102	XYN3+K6	SCREW	3	
103	VHN0194	SPACER	1	
104	XSN26+6FC	SCREW	2	
105	XYN26+K6	SCREW	3	
106	XSN26+8FZ	SCREW	4	

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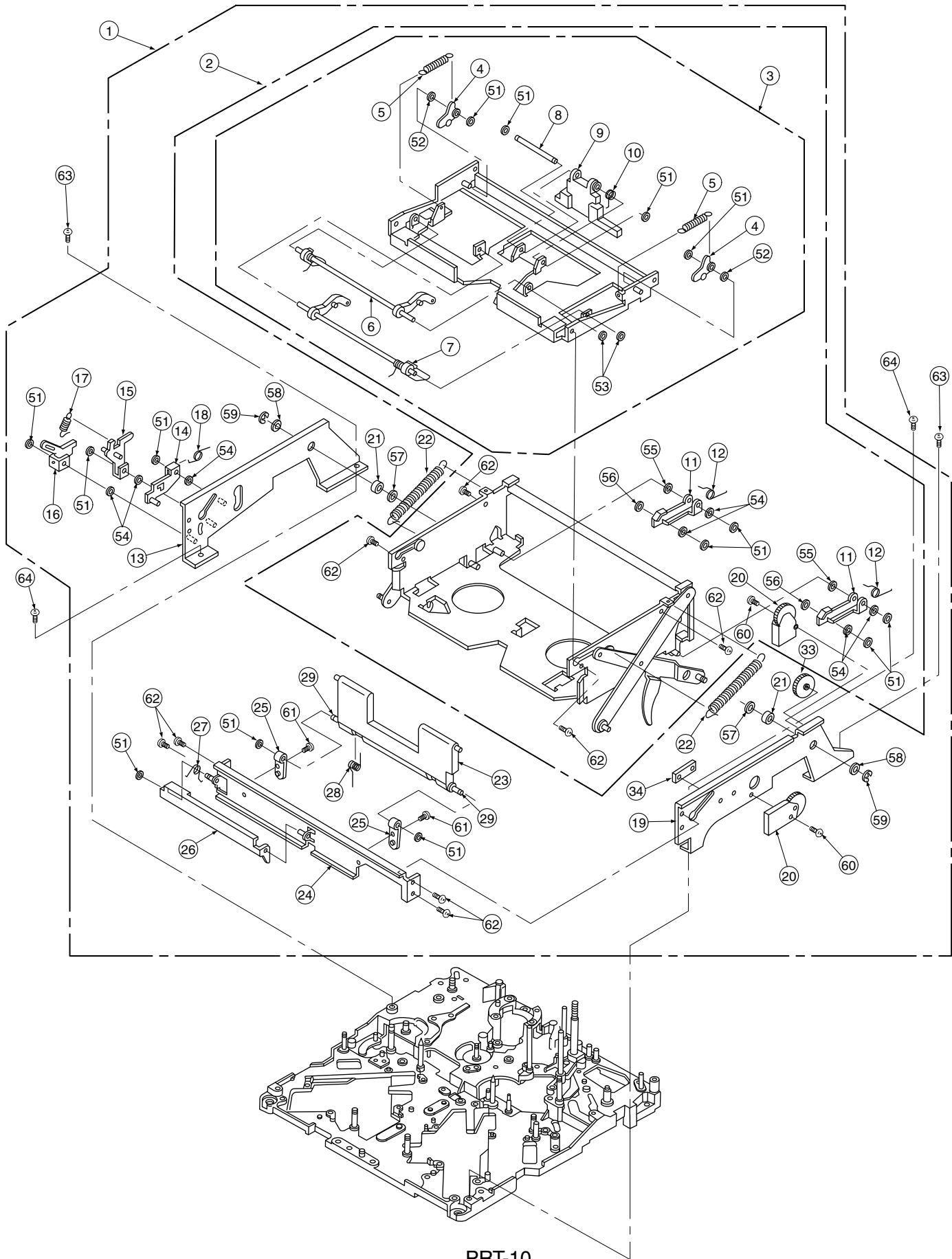
PRT-8




CASSETTE UP ASSEMBLY

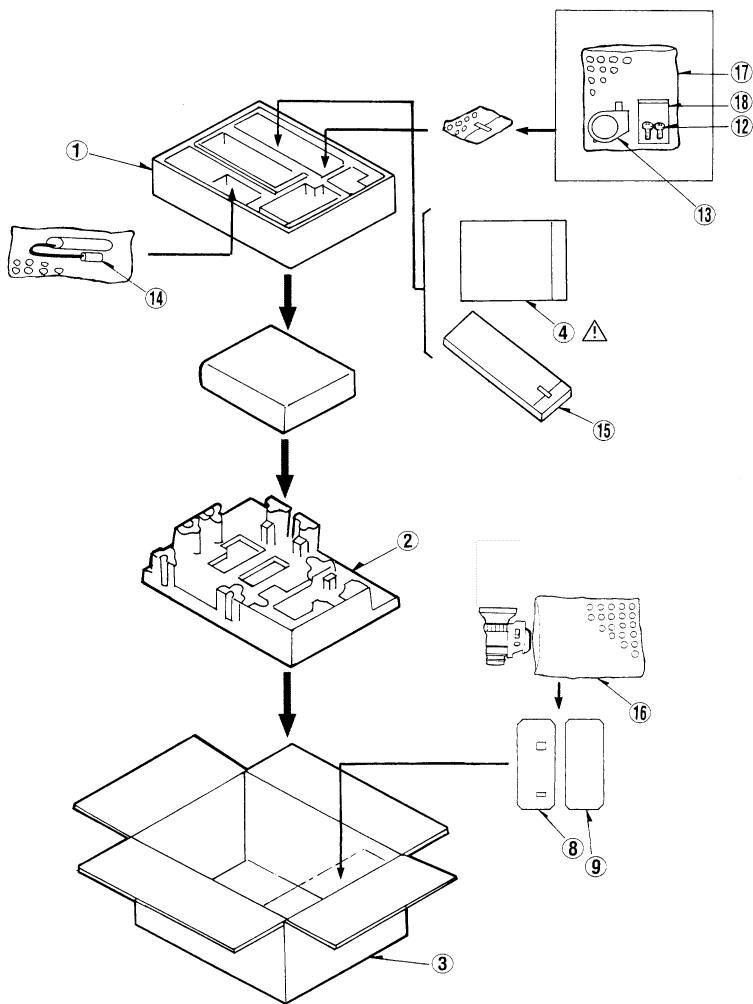
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CASSETTE UP ASSEMBLY



PACKING PARTS ASSEMBLY

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.



PACKING PARTS ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VPN5551	CUSHION (UPPER)	1	
2	VPN5552	CUSHION (LOWER)	1	
3	VPG0J71	PACKING CASE	1	FOR AG-DVC200P
3	VPG0K66	PACKING CASE	1	FOR AG-DVC200DP
3	VPG0K68	PACKING CASE	1	FOR AG-DVC200LP
A. 4	VQT9277	OPERATING INSTRUCTIONS	1	
5	VPF0724	POLYETHYLENE BAG	1	
8	VPN5565	CUSHION (UPPER)	1	FOR AG-DVC200LP
8	VPN5567	CUSHION (UPPER)	1	FOR AG-DVC200DP
9	VPN5566	CUSHION (LOWER)	1	FOR AG-DVC200LP
9	VPN5568	CUSHION (LOWER)	1	FOR AG-DVC200DP
12	XSB4+12FXKS	SCREW	2	
13	VYC0814	MIC HOLDER	1	
14	VSQ1187	MIC	1	
15	VYC0853	TRIPOD ADAPTOR	1	
16	VPF0531	POLYETHYLENE BAG	1	FOR AG-DVC200DP
17	VPF0890	POLYETHYLENE BAG	1	
18	VPF1016	POLYETHYLENE BAG	1	

ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E1	VEP83551A	MAIN C.B.A.	1	(RTL)
■	VEP000L8A	8P BUF SUB C.B.A.	1	(RTL)FOR VEP83551A
■ E2	VEP82237A	RF & SERVO C.B.A.	1	(RTL)
■	VEP80C23A	SERVO SUB C.B.A.	1	(RTL)FOR VEP82237A
■ E3	VEP83548A	VTR SUB C.B.A.	1	(RTL)
■ E4	VEP80C03A	VTR S/S C.B.A.	1	(RTL)
■ E5	VEP83564A	PRE AMP C.B.A.	1	(RTL)
■ E6	WE600PKF1B	DRIVE C.B.A.	1	(RTL)
■ E7	VEP81220A	POWER C.B.A.	1	(RTL)
■ E8	WE600PKY1A	PRE AMP SUB C.B.A.	1	(RTL)
■ E9	VEP80C06B	REAR JACK C.B.A.	1	(RTL)
■ E10	VEP80C07A	AV OUT C.B.A.	1	(RTL)
■ E11	VEP86149A	OPERATE C.B.A.	1	(RTL)
■ E12	VEP80C09A	1394 JACK C.B.A.	1	(RTL)
■ E13	WE600PKB1B	SENSOR (R) C.B.A.	1	(RTL)
■ E14	WE600PKC1A	SENSOR (G) C.B.A.	1	(RTL)
■ E15	WE600PKD1A	SENSOR (B) C.B.A.	1	(RTL)
■ E16	WE600PKE1B	P AMP C.B.A.	1	(RTL)
■ E17	VEP80B98A	R SIDE C.B.A.	1	(RTL)
■ E18	VEP80B99A	SCERNE FILE C.B.A.	1	(RTL)
■ E19	VEP80C00A	AUTO IRIS C.B.A.	1	(RTL)
■ E20	VEP80C01A	LED C.B.A.	1	(RTL)
■ E21	VEP80B94A	TOGGLE SW C.B.A.	1	(RTL)
■ E22	VEP80C02A	FRONT TOGGLE SW C.B.A.	1	(RTL)
■ E23	VEP80C20A	REMOTE MAINTENANCE C.B.A.	1	(RTL)
■ E24	VEP80B96A	MENU JOG C.B.A.	1	(RTL)
■ E25	VEP80B97A	POWER SW C.B.A.	1	(RTL)
■ E26	VEP80C08A	BREAKER C.B.A.	1	(RTL)
■ E27	VEP00X87D	DC INPUT C.B.A.	1	(RTL)
■ E28	VEP000U0A	HEAD PHONE C.B.A.	1	(RTL)
■ E29	VEP80C12A	FRONT MIC C.B.A.	1	(RTL)
■ E30	VEP80A74B	BACK TALLY C.B.A.	1	(RTL)

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7102	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7104	ECUX1H040CCV	C.CAPACITOR CH 50V 4P	1	
C7105.06	F1H1A105A004	C.CAPACITOR CH 10V 1U	2	
C7109	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1	
C7110	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	F1H1H471A004
C7111	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7112	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7114	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7115	ECST1AC476R	T.CAPACITOR CH 10V 47U	1	F3G1C1560001
C7116	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7118	F1H1A105A004	C.CAPACITOR CH 10V 1U	1	
C7119	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7120	F1H1H103A190	C.CAPACITOR CH 50V 0.01U	1	
C7121-26	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	6	
C7127	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1	
C7128	F1H1H270A231	C.CAPACITOR CH 50V 27P	1	
C7131	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7132	F1H1H103A190	C.CAPACITOR CH 50V 0.01U	1	
C7134	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7135	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7136	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7137-41	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	5	
C7144	ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C7202	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7204	ECUX1H040CCV	C.CAPACITOR CH 50V 4P	1	
C7205.06	F1H1A105A004	C.CAPACITOR CH 10V 1U	2	
C7209	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1	
C7210	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	F1H1H471A004
C7211	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7212	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7214	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7215	ECST1AC476R	T.CAPACITOR CH 10V 47U	1	F3G1C1560001
C7216	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7218	F1H1A105A004	C.CAPACITOR CH 10V 1U	1	
C7219	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7220	F1H1H103A190	C.CAPACITOR CH 50V 0.01U	1	
C7221-26	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	6	
C7227	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1	
C7228	F1H1H270A231	C.CAPACITOR CH 50V 27P	1	
C7231	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7232	F1H1H103A190	C.CAPACITOR CH 50V 0.01U	1	
C7234	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7235	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7236	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7237-41	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	5	
C7244	ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C7302	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7304	ECUX1H040CCV	C.CAPACITOR CH 50V 4P	1	
C7305.06	F1H1A105A004	C.CAPACITOR CH 10V 1U	2	
C7309	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1	
C7310	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	F1H1H471A004
C7311	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7312	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7314	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7315	ECST1AC476R	T.CAPACITOR CH 10V 47U	1	F3G1C1560001
C7316	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7318	F1H1A105A004	C.CAPACITOR CH 10V 1U	1	
C7319	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7320	F1H1H103A190	C.CAPACITOR CH 50V 0.01U	1	
C7321-26	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	6	
C7327	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1	
C7328	F1H1H270A231	C.CAPACITOR CH 50V 27P	1	
C7331	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7332	F1H1H103A190	C.CAPACITOR CH 50V 0.01U	1	
C7334	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7335	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C7336	F3G1C1560001	T.CAPACITOR CH 16V 15U	1	
C7337-41	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	5	
C7344	ECUX1H180JCV	C.CAPACITOR CH 50V 18P	1	
C7501	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
C7502	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
C7503	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
C7504	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
C7505	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
C7506.07	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C7508.09	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	2	
C7510	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
C7511	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
C7512	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
C7513	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
C7514	ECHU1C104J	P.CAPACITOR 16V 0.1U	1	
C7515	EEVHP1C100	E.CAPACITOR 16V 10U	1	
C7516.17	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	
C7518	ECHU1C104J	P.CAPACITOR 16V 0.1U	1	
C7519	EEVHP1C100	E.CAPACITOR 16V 10U	1	
C7520	ECHU1C104J	P.CAPACITOR 16V 0.1U	1	
C7521	EEVHP1C100	E.CAPACITOR 16V 10U	1	
C7522	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
C7523	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
C7524	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
C7525.26	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	2	
C8001	F1H1A105A004	C.CAPACITOR CH 10V 1U	1	
C8005.06	VCEA1AAP221	E.CAPACITOR 10V 220U	2	F2D1A2210001
C8009	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8011	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
C8012-16	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	5	
C8017	F1H1H300A004	C.CAPACITOR CH 50V 30P	1	
C8018	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8019	F1H1H101A231	C.CAPACITOR CH 50V 100P	1	
C8021	SK41C336MC	T.CAPACITOR CH 16V 33U	1	
C8022	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8024	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8026-28	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	3	
C8030-56	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	27	
C8071	F1H1H470A231	C.CAPACITOR CH 50V 47P	1	
C8073-76	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	4	
C8077	ECST1AC476Z	T.CAPACITOR CH 10V 47U	1	
C8078-81	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	4	
C8082-84	F3F1A4750001	T.CAPACITOR CH 10V 4.7U	3	
C8085	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8086	ECST1AC476Z	T.CAPACITOR CH 10V 47U	1	
C8087	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
C8088-90	F3F1A4750001	T.CAPACITOR CH 10V 4.7U	3	
C8092.93	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2	
C8094	F1H1H150A231	C.CAPACITOR CH 50V 22P	1	
C8095.96	YGM1C471J1HT	C.CAPACITOR 16V 470U	2	
C8097	F1H1H200A004	C.CAPACITOR CH 50V 20P	1	
C8098.99	YGM1C471J1HT	C.CAPACITOR 16V 470U	2	
C8105	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8108	F1K1E1040003	C.CAPACITOR CH 25V 0.1U	1	
C8109	F1H1H122A013	C.CAPACITOR CH 50V 1200P	1	
C8111	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8112	F3F1A225A003	T.CAPACITOR CH 10V 2.2U	1	
C8113	F1H1E223A002	C.CAPACITOR CH 25V 0.022U	1	
C8118	ECST1CC336Z	T.CAPACITOR CH 16V 33U	1	
C8119	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8120	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1	
C8121.22	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2	
C8123	ECST1CC336Z	T.CAPACITOR CH 16V 33U	1	
C8124-27	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	4	
C8136	ECEV1CN100Q	E.CAPACITOR CH 16V 10U	1	
C8137.38	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2	
C8139	F3F1A1060001	T.CAPACITOR CH 10V 10U	1	
C8140	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
C8141	ECST1CX156Z	T.CAPACITOR CH 16V 15U	1	
C8142.43	F1H1H470A231	C.CAPACITOR CH 50V 47P	2	
C8144	F1H1H150A231	C.CAPACITOR CH 50V 22P	1	
C8145.46	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2	
C8147	F3F1A1060001	T.CAPACITOR CH 10V 10U	1	
C8150	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1	
C8153.54	F1H1H470A231	C.CAPACITOR CH 50V 47P	2	
C8155	F1H1H150A231	C.CAPACITOR CH 50V 22P	1	
C8157	F1H1H100A226	C.CAPACITOR CH 50V 100P	1	
C8161	ECST1AX226Z	T.CAPACITOR CH 10V 22U	1	
C8162	F3F1A1060001	T.CAPACITOR CH 10V 10U	1	
C8163	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1	
C8165	F1H1H151A231	C.CAPACITOR CH 50V 150P	1	
C8166	F1H1H330A231	C.CAPACITOR CH 50V 33P	1	
C8168	F3F1A1060001	T.CAPACITOR CH 10V 10U	1	
C8172	ECST1CX156Z	T.CAPACITOR CH 16V 15U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C8173	F1H1H2R0A260	C.CAPACITOR CH 50V 2P	1		D6013-20	MA3J14300L	DIODE	8	
C8178	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1		D6100	MA142WA	DIODE	1	
C8187	F3F1A4750001	T.CAPACITOR CH 10V 4.7U	1		D6400	MA142WA	DIODE	1	
C8188	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1		D7101	MA142K	DIODE	1	
C8189	ECST1AC476Z	T.CAPACITOR CH 10V 47U	1		D7201	MA142K	DIODE	1	
C8190,91	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2		D7301	MA142K	DIODE	1	
C8192	F1H1H150A231	C.CAPACITOR CH 50V 22P	1		D8004-07	B0CCAB000015	DIODE	4	
C8193,94	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2		D8700,01	MA3J14300L	DIODE	2	
C8196	F1H1A105A004	C.CAPACITOR CH 10V 1U	1		D8750	MA3056-M	DIODE	1	
C8209	F1H1H181A004	C.CAPACITOR CH 50V 180P	1						
C8213-16	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	4		FL3001	VLF1492	FILTER	1	
C8219	F1H1H101A231	C.CAPACITOR CH 50V 100P	1		FL8002	JOE3584B0005	FILTER	1	
C8221	F1H1H220A231	C.CAPACITOR CH 50V 22U	1						
C8222	F1H1H4R0A243	C.CAPACITOR CH 50V 4P	1		IC1	TC7WH08F	IC	1	C0JBAA000255 FOR VEP000L8A
C8223	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1		IC3001	XC62FP5002P	IC	1	
C8225,26	F1H1H220A231	C.CAPACITOR CH 50V 22U	2		IC3003-05	AD8051AR	IC	3	
C8228	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1		IC3006	XC62FP3002P	IC	1	
C8229	F3H1A4760005	T.CAPACITOR CH 10V 47U	1		IC3007-09	C0FBAF000042	IC	3	
C8230-32	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	3		IC3010-12	NJM062V	IC	3	
C8233	F1H1H470A231	C.CAPACITOR CH 50V 47P	1		IC3301	XC62FP3002P	IC	1	
C8240	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1		IC3302	NJM2534V	IC	1	
C8600,01	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2		IC3303	TC4W53FU	IC	1	
C8602	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		IC3304	MC14053BDT	IC	1	
C8603	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		IC3305,06	NJM2538VT	IC	2	
C8604,05	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2		IC3307	TC7S14FU	IC	1	C0JBAA000516
C8608-10	ECST1AY106Z	T.CAPACITOR CH 10V 10U	3		IC3401	XC62FP3002M	IC	1	
C8612	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1		IC3403	BH7086KV	IC	1	C1ZBZ0001649
C8613-18	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	6		IC3404	TC7SH04FU	IC	1	
C8650,51	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	2		IC3500	M62370GP	IC	1	C0FBB0000082
C8652	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1		IC3501	MC14053BDT	IC	1	
C8653	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1		IC3601	XC62FP3002P	IC	1	
C8655	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1		IC3602	AN3742FHN-EB	IC	1	
C8656	ECUX1H121JCV	C.CAPACITOR CH 50V 120P	1		IC3604	C1AB00000860	IC	1	
C8657,58	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	2		IC3702	XC62FP5002P	IC	1	
C8659	ECST1CC336R	T.CAPACITOR CH 16V 33U	1		IC3704	NJM2902V	IC	1	
C8700,01	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2		IC3707	C0JBAA000265	IC	1	
C8702,03	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2		IC4000	UPC5022GA121	IC	1	
C8750	ECST1EC106Z	T.CAPACITOR CH 25V 10U	1		IC4001	NJM062M-D	IC	1	
C8751	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1		IC4002	MC14053BDT	IC	1	
C8752	ECST1DX106Z	T.CAPACITOR CH 20V 10U	1		IC4003,04	TVHT04FT	IC	2	
C8753	ECST0JC686	T.CAPACITOR CH6.3V 68U	1		IC4100,01	NJM4580ED	IC	2	C0ABBB000123
C8754	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1		IC4102	MC14053BDT	IC	1	
C8755	F3H1A4760005	T.CAPACITOR CH 10V 47U	1		IC4200	XC62AP3002P	IC	1	
C8756	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		IC4201	AK4503VF	IC	1	
C8757	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1		IC4202,03	NJM062M-D	IC	2	
C8759	SK41C336MC	T.CAPACITOR CH 16V 33U	1		IC4204	NJM062V	IC	1	
C8760	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		IC4205	TC7W125FU	IC	1	
C8761	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1		IC4400	NJM062M-D	IC	1	
C8762	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		IC4401	BA7785FS	IC	1	
C8763	ECST0JY106Z	T.CAPACITOR CH6.3V 10U	1		IC6000	C0EBJ0000049	IC	1	
C8764	ECST1CX156Z	T.CAPACITOR CH 16V 15U	1		IC6001	C0EBE0000075	IC	1	
C8765,66	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2		IC6002	NJM2904V	IC	1	
C8800-03	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	4		IC6004	TC7W125FU	IC	1	
C8804	ECST1CX156Z	T.CAPACITOR CH 16V 15U	1		IC6005	TC7SH04FU	IC	1	
C8805-08	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	4		IC6006	NJM2904V	IC	1	
C8809	ECST1CX156Z	T.CAPACITOR CH 16V 15U	1		IC6101	LVX3245QSC	IC	1	
C8810-17	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	8		IC6102,03	TVHT541FT	IC	2	
C8818,19	ECST1AX336	E.CAPACITOR 6.3V 120U	2		IC6105	STK12C68S45	IC	1	
C8820,21	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2		IC6106	UPD4992GS	IC	1	
C8822	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1		IC6107	S8420BF	IC	1	
					IC6108	TVHT541FT	IC	1	
D3301	MA142K	DIODE	1		IC6200	C1AB00000936	IC	1	
D3401	MA3J14300L	DIODE	1		IC6301	C1AB00000936	IC	1	
D4001	MA142WK	DIODE	1		IC6302	C0JBAA0001605	IC	1	
D4003	MA142WK	DIODE	1		IC6400,01	TLCX574FT	IC	2	
D4004-09	MA3J14300L	DIODE	6		IC6402	C1AB00001228	IC	1	
D4100,01	MA142K	DIODE	2		IC6403	TLCX32FT	IC	1	
D4200-03	MA3J14300L	DIODE	4		IC6502,03	C0JBAB000356	IC	2	
D4400	MA3220	DIODE	1		IC7001	C0JBAB000028	HEX BUFFER	1	
D4401	MA3J14300L	DIODE	1		IC7005	TC4W53FU	IC	1	
D6000	MA142K	DIODE	1		IC7006	NJM2059M	IC	1	C0ABCB000023
D6005	MA3J14300L	DIODE	1		IC7007	C5AB00000001	IC	1	
D6007	MA3J14300L	DIODE	1		IC7008	TVHT08FT	IC	1	
D6009	MA142K	DIODE	1		IC7101	MC14053BDT	IC	1	
D6011	MA3J14300L	DIODE	1		IC7102,03	NJM4559M	IC	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC7104	NJM072BV	IC	1	C0ABEB000037	L11,12	J0JKC0000009	FILTER	2	
IC7105	NJM4560M	IC			L13-17	VLQ1315A102	FILTER	5	J0JHC0000015
IC7108	TC4W53FU	IC	1		L51	VLQ1315A102	FILTER	1	J0JHC0000015
IC7201	MC14053BDT	IC	1		L52	VLQ0319M6R8	COIL 6.8UH	1	G1C6R8MA0001
IC7202,03	NJM4559M	IC	2		L3001,02	VLQ0163J820	COIL 82UH	2	
IC7204	NJM072BV	IC	1	C0ABEB000037	L3003,04	VLQ0163J680	COIL 68UH	2	
IC7205	NJM4560M	IC	1		L3403,04	VLP0353	COIL	2	
IC7208	TC4W53FU	IC	1		L3601	VLP0353	COIL	1	
IC7301	MC14053BDT	IC	1		L3602,03	VLQ0319K101	COIL 100UH	2	G1C101K00022
IC7302,03	NJM4559M	IC	2		L4000-05	VLQ0163J100	COIL 10UH	6	
IC7304	NJM072BV	IC	1	C0ABEB000037	L4201,02	VLQ0163J100	COIL 10UH	2	
IC7305	NJM4560M	IC	1		L7501	VLQ0319K220	COIL 22UH	1	G1C220K00015
IC7308	TC4W53FU	IC	1		L8001	G1C390J00001	COIL 39UH	1	
IC7501,02	TC7SET32FU	IC	2		L8002-04	VLP0353	COIL	3	
IC7503	NJM064V	IC	1		L8005	ELJFC4R7MF	COIL 4.7UH	1	
IC7504	MC14053BDT	IC	1		L8006	YWNL324R7J	COIL 4.7UH	1	
IC7505	NJM064V	IC	1		L8007,08	ELJFC4R7MF	COIL 4.7UH	2	
IC7506	MC14053BDT	IC	1		L8009,10	ELJFC5R6MF	COIL 5.6UH	2	
IC7507	C0FBB0000023	IC	1		L8551	J0JKC0000009	FILTER	1	
IC8001	M51957BFP	IC	1		L8600	J0JKC0000009	FILTER	1	
IC8004	TVHT08FT	IC	1		L8603,04	VLP0353	COIL	2	
IC8005	BR9040F	IC	1		L8651	ELJFC4R7MF	COIL 4.7UH	1	
IC8006	TVHC138FT	IC	1		L8652	VLQ0163J5R6	COIL 5.6UH	1	
IC8007	UPD6465GT611	IC	1		L8653	VLQ0163J680	COIL 68UH	1	
IC8009	C0FBB0000023	IC	1		L8700,01	VLP0353	COIL	2	
IC8010-12	MN6577F	IC	3		L8800	ELJFC4R7MF	COIL 4.7UH	1	
IC8015	NJM2904V	IC	1						
IC8018	TVS1129	IC	1	C0JBAZ0000525	P1	VJP3978C120E	CONNECTOR (MALE)	1	
IC8020	C0BBBA000019	IC	1		P2	VJS3826A020	CONNECTOR (FEMALE)	1	
IC8026	TC7SH00FU	IC	1		P3	K1MZ06B00001	CONNECTOR	1	
IC8029	C1ZBZ0000169	IC	1		P4	K1MM16B00003	CONNECTOR	1	
IC8030	F432532APGF	IC	1	C1AB00000199	P6	K1MM21B00003	CONNECTOR	1	
IC8031	C0JBAB0000220	IC	1		P7	VJS2848D018	CONNECTOR (FEMALE)	1	K1MN18B00010
IC8032	TC7SH04FU	IC	1		P8	VJP3125D015	CONNECTOR (MALE)	1	K1KA15B00034
IC8035	TC7SH08FU	IC	1		P9	VJS3801D024	CONNECTOR (FEMALE)	1	
IC8037	C0FABD000019	IC	1		P10	VJP3125B011	CONNECTOR (MALE)	1	
IC8039	LM1881M	IC	1		P11	VJP3125B006	CONNECTOR (MALE) 6P	1	
IC8040	TVHC221FT	IC	1		P12	VJS3801D024	CONNECTOR (FEMALE)	1	
IC8041	TC7SH02FU	IC	1		P13	VJS3801B040	CONNECTOR (FEMALE)	1	
IC8042	C0JBAB000005	IC	1		P15	VJP3172D003	CONNECTOR (MALE)	1	K1KA03B00006
IC8044	C0JBAB000005	IC	1		P16	VJP3518B013	CONNECTOR (MALE)	1	K1KA13B00036
IC8047	C0JBAB000003	IC	1		P17	VJP3172D002	CONNECTOR (MALE)	1	K1KA02B00051
IC8048	YULLW0106	IC	1		P18	VJP3125B010	CONNECTOR (MALE)	1	K1KA10B000136
IC8049	C0JBAZ0000025	IC	1		P19	VJP3125B008	CONNECTOR (MALE)	1	
IC8050	YULLW0106	IC	1		P20	VJP3884B060	CONNECTOR (MALE)	1	
IC8051	TC7SH08F	IC	1		P21	VJP3358C022	CONNECTOR (MALE)	1	K1KA22A00027
IC8422	C0JBAB0000220	IC	1		P22	VJP3172D007	CONNECTOR (MALE)	1	
IC8423	C0JBAZ0000280	IC	1		P23	VJP3172D006	CONNECTOR (MALE)	1	K1KA06B00054
IC8425	TC7SH04FU	IC	1		P30	VJS3826A020	CONNECTOR (FEMALE)	1	
IC8429	C0ABB0000179	IC	1		P6000	VJS3826A020	CONNECTOR (FEMALE)	1	
IC8432	C0ABEB000023	IC	1		P8000	VJS3826A020	CONNECTOR (FEMALE)	1	
IC8601	TC7SH00FU	IC	1		P8001	VJP3950A002	CONNECTOR (MALE)	1	
IC8604,05	C0CBAB000059	IC	2						
IC8607	TC7SZ00F	IC	1		Q3001-04	2SD1819A-R	TRANSISTOR	4	
IC8700,01	TC4W53FU	IC	2		Q3005,06	2SA1532-B	TRANSISTOR	2	
IC8702,03	TC7W126F	IC	2		Q3007,08	2SB1218A-R	TRANSISTOR	2	
IC8704	TC7SH08FU	IC	1		Q3009-11	2SD1819A-R	TRANSISTOR	3	
IC8751	NJM431U	IC	1	C0DBEZC00003	Q3012-14	2SK662-R	TRANSISTOR	3	
IC8754	NJM2904V	IC	1		Q3015-17	2SD1819A-R	TRANSISTOR	3	
IC8755	NJM2902V	IC	1		Q3301	2SD1819A-R	TRANSISTOR	1	
IC8756	TC7W04FU	IC	1		Q3701-04	2SD874A-R	TRANSISTOR	4	
IC8757	XC62FP4502P	IC	1		Q4000	2SD1819A-R	TRANSISTOR	1	
IC8800	ADV7123KST50	IC	1	C0FBBF000020	Q4001	2SD602A-S	TRANSISTOR	1	
IC8802,03	TC7SET08F	IC	2		Q4002	2SB710A-R	TRANSISTOR	1	
IC8804-07	TC4W53FU	IC	4		Q4003-05	2SB12200HL	TRANSISTOR	3	
IC8808,09	TC7SH04FU	IC	2		Q4100,01	2SD1979	TRANSISTOR	2	
					Q4102-04	2SD1819A-R	TRANSISTOR	3	
IP3402	C1ZBZ0001803	IC	1		Q4105,06	2SD1979	TRANSISTOR	2	
IP6003	C2GBC0000084	MICRO CONTROLLER	1		Q4107-09	2SD1819A-R	TRANSISTOR	3	
IP6501	C1ZBZ0001803	IC	1		Q4400	2SD602A-R	TRANSISTOR	1	
IP8003	C3FBEZ000002	MICRO COMPUTER	1		Q4401-04	2SD1979	TRANSISTOR	4	
					Q4405	2SB1219A-R	TRANSISTOR	1	
J3601	VJR1094	TERMINAL	1		Q6401	XN1213	TRANSISTOR-RESISTOR	1	
J7001,02	VJR1094	TERMINAL	2		Q6403	XN4601	TRANSISTOR-RESISTOR	1	
					Q7102	XN0653400L	TRANSISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q7103	2SC39310YL	TRANSISTOR	1	
Q7104	2SK662-PQR	TRANSISTOR	1	
Q7105	XN0653400L	TRANSISTOR	1	
Q7106-08	XN0643500L	TRANSISTOR	3	
Q7110	XN0643500L	TRANSISTOR	1	
Q7111	2SK662-PQR	TRANSISTOR	1	
Q7113-16	XN0643500L	TRANSISTOR	4	
Q7117,18	2SA15320CL	TRANSISTOR	2	
Q7119	2SC39310YL	TRANSISTOR	1	
Q7120	2SK662-PQR	TRANSISTOR	1	
Q7121	XN0643500L	TRANSISTOR	1	
Q7122	2SC39310YL	TRANSISTOR	1	
Q7202	XN0653400L	TRANSISTOR	1	
Q7203	2SC39310YL	TRANSISTOR	1	
Q7204	2SK662-PQR	TRANSISTOR	1	
Q7205	XN0653400L	TRANSISTOR	1	
Q7206-08	XN0643500L	TRANSISTOR	3	
Q7210	XN0643500L	TRANSISTOR	1	
Q7211	2SK662-PQR	TRANSISTOR	1	
Q7213-16	XN0643500L	TRANSISTOR	4	
Q7217,18	2SA15320CL	TRANSISTOR	2	
Q7219	2SC39310YL	TRANSISTOR	1	
Q7220	2SK662-PQR	TRANSISTOR	1	
Q7221	XN0643500L	TRANSISTOR	1	
Q7222	2SC39310YL	TRANSISTOR	1	
Q7302	XN0653400L	TRANSISTOR	1	
Q7303	2SC39310YL	TRANSISTOR	1	
Q7304	2SK662-PQR	TRANSISTOR	1	
Q7305	XN0653400L	TRANSISTOR	1	
Q7306-08	XN0643500L	TRANSISTOR	3	
Q7310	XN0643500L	TRANSISTOR	1	
Q7311	2SK662-PQR	TRANSISTOR	1	
Q7313-16	XN0643500L	TRANSISTOR	4	
Q7317,18	2SA15320CL	TRANSISTOR	2	
Q7319	2SC39310YL	TRANSISTOR	1	
Q7320	2SK662-PQR	TRANSISTOR	1	
Q7321	XN0643500L	TRANSISTOR	1	
Q7322	2SC39310YL	TRANSISTOR	1	
Q7501-03	2SD1819A-R	TRANSISTOR	3	
Q8004	XP0460100L	TRANSISTOR	1	
Q8022	2SB1218ALL	TRANSISTOR	1	
Q8023,24	2SC39310YL	TRANSISTOR	2	
Q8025	2SB1218ALL	TRANSISTOR	1	
Q8026	B1ABCF000059	TRANSISTOR	1	
Q8028	B1ABCF000059	TRANSISTOR	1	
Q8035	B1ABCF000059	TRANSISTOR	1	
Q8038	2SC39310YL	TRANSISTOR	1	
Q8039	B1ABCF000059	TRANSISTOR	1	
Q8044	2SB1218ALL	TRANSISTOR	1	
Q8045	B1ABCF000059	TRANSISTOR	1	
Q8047-49	2SC39310YL	TRANSISTOR	3	
Q8050	XP0460100L	TRANSISTOR	1	
Q8055	2SD18200WL	TRANSISTOR	1	
Q8056	2SB1219AHL	TRANSISTOR	1	
Q8750	2SB07660HL	TRANSISTOR	1	
Q8751,52	2SB1218A-R	TRANSISTOR	2	
Q8753	2SD874A-R	TRANSISTOR	1	
Q8754	2SB07660HL	TRANSISTOR	1	
Q8800-02	2SB1218A-R	TRANSISTOR	3	
Q8803	2SD1819A-R	TRANSISTOR	1	
Q8804	2SB1218A-R	TRANSISTOR	1	
Q8805-07	2SD1819A-R	TRANSISTOR	3	
QR3301,02	UN9212	TRANSISTOR-RESISTOR	2	
QR4000	UNR511300L	TRANSISTOR-RESISTOR	1	
QR4001,02	UNR521F00L	TRANSISTOR-RESISTOR	2	
QR4003,04	UNR511300L	TRANSISTOR-RESISTOR	2	
QR4005,06	UNR521F00L	TRANSISTOR-RESISTOR	2	
QR4007	UNR511300L	TRANSISTOR-RESISTOR	1	
QR4008-10	UNR521300L	TRANSISTOR-RESISTOR	3	
QR4100	UNR511300L	TRANSISTOR-RESISTOR	1	
QR4101	UNR521300L	TRANSISTOR-RESISTOR	1	
QR4102	UNR511300L	TRANSISTOR-RESISTOR	1	
QR4103	UNR521300L	TRANSISTOR-RESISTOR	1	
QR4400	UNR521300L	TRANSISTOR-RESISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
QR4401	UNR511300L	TRANSISTOR-RESISTOR	1	
QR6201	UN5215	TRANSISTOR-RESISTOR	1	
QR6300	UNR521300L	TRANSISTOR-RESISTOR	1	
QR6301-04	UNR511500L	TRANSISTOR-RESISTOR	4	
QR6400	UNR521100L	TRANSISTOR-RESISTOR	1	
QR6401	UNR511100L	TRANSISTOR-RESISTOR	1	
QR6402,03	UNR521100L	TRANSISTOR-RESISTOR	2	
QR8700	UNR521300L	TRANSISTOR-RESISTOR	1	
QR8702	UNR521300L	TRANSISTOR-RESISTOR	1	
R1-R3	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	3	
R6	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R9	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R10	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R12	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R50-53	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	4	
R3001-06	ERJ3RBD512	M.RESISTOR CH 1/16W 5.1K	6	
R3007,08	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3016,17	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R3018	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R3019	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R3020-22	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	3	
R3023	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R3024	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R3025	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
R3026,27	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	2	
R3028,29	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	2	
R3030,31	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3032,33	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	2	
R3034,35	ERJ3RBD221	M.RESISTOR CH 1/16W 220	2	
R3036,37	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R3038	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3039	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R3040	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3041	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R3042	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3043	ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R3044	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3046	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3048-50	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	3	
R3051-53	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	3	
R3057-59	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
R3060	ERJ3RBD392	M.RESISTOR CH 1/16W 3.9K	1	
R3061,62	ERJ3RBD271	M.RESISTOR CH 1/16W 270	2	
R3063-65	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R3066	ERJ3RBD242	M.RESISTOR CH 1/16W 2.4K	1	
R3068	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R3070	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R3072	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3074	ERJ3RED910	M.RESISTOR CH 1/16W 91	1	
R3076	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3078-80	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	3	
R3081-83	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	3	
R3084-86	ERJ3RED220	M.RESISTOR CH 1/16W 22	3	
R3087-89	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	3	
R3090-92	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3	
R3095-99	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	5	
R3101-05	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	5	
R3109	ERJ3RED200	M.RESISTOR CH 1/16W 20	1	
R3110	ERJ3RBD681	M.RESISTOR CH 1/16W 680	1	
R3111	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3112	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R3113	ERJ3RED200	M.RESISTOR CH 1/16W 20	1	
R3114	ERJ3RBD681	M.RESISTOR CH 1/16W 680	1	
R3115	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3116	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R3117	ERJ3RED200	M.RESISTOR CH 1/16W 20	1	
R3118	ERJ3RBD681	M.RESISTOR CH 1/16W 680	1	
R3119	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3120	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R3121	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3122	ERJ3RBD162	M.RESISTOR CH 1/16W 1.6K	1	
R3123	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3124	ERJ3RBD122	M.RESISTOR CH 1/16W 1.2K	1	
R3125	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3126	ERJ3RBD162	M.RESISTOR CH 1/16W 1.6K	1	
R3127	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3128	ERJ3RBD122	M.RESISTOR CH 1/16W 1.2K	1	
R3129	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3130	ERJ3RBD162	M.RESISTOR CH 1/16W 1.6K	1	
R3131	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R3132	ERJ3RBD122	M.RESISTOR CH 1/16W 1.2K	1	
R3135	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1	
R3301	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
R3302	ERJ3RBD332	M.RESISTOR CH 1/16W 3.3K	1	
R3303	ERJ3RBD393	M.RESISTOR CH 1/16W 39K	1	
R3304.05	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3311	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
R3312	ERJ3RBD622	M.RESISTOR CH 1/16W 6.2K	1	
R3313	ERJ3RBD563	M.RESISTOR CH 1/16W 56K	1	
R3314.15	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R3316.17	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R3318	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R3319.20	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	2	
R3321	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3322	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R3323	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3324.25	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	2	
R3326	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R3327.28	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	2	
R3329-31	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R3332	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3334	ERJ6RED750	M.RESISTOR CH 1/10W 75	1	
R3335	ERJ6RED620	M.RESISTOR CH 1/10W 75	1	
R3336	ERJ6RED750	M.RESISTOR CH 1/10W 75	1	
R3337	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R3338	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3339	ERJ6RED470	M.RESISTOR CH 1/10W 47	1	
R3340	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
R3341	ERJ3RBD392	M.RESISTOR CH 1/16W 3.9K	1	
R3346	ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	
R3354	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3359	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3366	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3368	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3370	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3372.73	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3377	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3401	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R3407	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3408	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3409	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3412	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3414	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R3416	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R3419	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3420	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3422	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R3423	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3424	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3425-28	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	4	
R3502	ERJ3RBD433	M.RESISTOR CH 1/16W 43K	1	
R3503	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R3601	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R3605	ERJ3RBD391	M.RESISTOR CH 1/16W 390	1	
R3606	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R3608	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R3609	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3610	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R3611	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R3612	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R3613	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R3614-16	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	3	
R3617	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R3619.20	ERJ3GEYJ121	M.RESISTOR CH 1/16W 120	2	
R3621	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3622	ERJ3GEYJ162	M.RESISTOR CH 1/16W 1.6K	1	
R3623	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R3624	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3625.26	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3627	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R3628	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3629	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R3630	ERJ3RBD391	M.RESISTOR CH 1/16W 390	1	
R3631	ERJ3RBD302	M.RESISTOR CH 1/16W 3K	1	
R3632	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3636	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3701.02	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	2	
R3704	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3706	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R3707	ERJ3RBD681	M.RESISTOR CH 1/16W 680	1	
R3708	ERJ3RED200	M.RESISTOR CH 1/16W 20	1	
R3709	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	1	
R3710	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3711	ERJ3RBD471	M.RESISTOR CH 1/16W 470	1	
R3712	ERJ3RBD181	M.RESISTOR CH 1/16W 180	1	
R3713	ERJ3RED510	M.RESISTOR CH 1/16W 51	1	
R3714	ERJ3RBD122	M.RESISTOR CH 1/16W 1.2K	1	
R3715	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3716	ERJ3RBD201	M.RESISTOR CH 1/16W 200	1	
R3717.18	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	2	
R3719	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3720	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
R3721	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	1	
R3724.25	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4000	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R4001.02	ERJ14YJ682	M.RESISTOR CH 1/4W 6.8K	2	
R4003.04	ERJ6RBD223	M.RESISTOR CH 1/10W 22K	2	
R4005	ERJ3GEYJ911	M.RESISTOR CH 1/16W 910	1	
R4006	ERJ6GEYG392	M.RESISTOR CH 1/10W 3.9K	1	
R4007-10	ERJ14YJ682	M.RESISTOR CH 1/4W 6.8K	4	
R4011.12	ERJ6RBD223	M.RESISTOR CH 1/10W 22K	2	
R4013	ERJ3GEYJ911	M.RESISTOR CH 1/16W 910	1	
R4014	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R4015	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4016	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4017	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4018	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R4019	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R4020	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4021	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4022.23	D1H84734A008	COMBI.R-R 47K	2	
R4024.25	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R4026.27	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
R4031	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4032	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4033	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4034	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4035	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4036	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R4100	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4101	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4102	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4103	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	1	
R4104	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R4105	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4106	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	1	
R4107.08	ERJ3RBD682	M.RESISTOR CH 1/16W 6.8K	2	
R4109	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R4110	ERJ3RBD203	M.RESISTOR CH 1/16W 20K	1	
R4111	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4112	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4113	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4114	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4115.16	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4117	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4118	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4119	ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
R4120	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4121	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4122	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4123	ERJ3RBD682	M.RESISTOR CH 1/16W 6.8K	1	
R4124	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R4125	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4126	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4127	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R4128	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4129	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	1	
R4130	ERJ3RBD682	M.RESISTOR CH 1/16W 6.8K	1	
R4131	ERJ3RBD203	M.RESISTOR CH 1/16W 20K	1	
R4132	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4133	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4134	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4135	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R4136,37	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4138	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4139	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R4140	ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
R4141	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4200,01	ERJ6RBD472	M.RESISTOR CH 1/10W 4.7K	2	
R4202	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4203	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R4204	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4206	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R4207,08	ERJ3RBD472	M.RESISTOR CH 1/16W 4.7K	2	
R4209	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R4210	ERJ3RBD111	M.RESISTOR CH 1/16W 110	1	
R4211	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R4212	ERJ3RBD111	M.RESISTOR CH 1/16W 110	1	
R4213-17	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	5	
R4218,19	ERJ3RBD472	M.RESISTOR CH 1/16W 4.7K	2	
R4220	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R4221	ERJ3RBD111	M.RESISTOR CH 1/16W 110	1	
R4222	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R4223	ERJ3RBD111	M.RESISTOR CH 1/16W 110	1	
R4224-28	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	5	
R4229,30	ERJ6RBD472	M.RESISTOR CH 1/10W 4.7K	2	
R4231	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4232	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R4233	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4234	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R4235,36	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R4237,38	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	2	
R4400,01	ERJ14YJ682	M.RESISTOR CH 1/4W 6.8K	2	
R4402	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4403	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4406	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4407	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R4408	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4409	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4410	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4411	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4412	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R4415	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4416	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R4417	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4418	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R4419	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R4420	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R4422,23	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R4424	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R4425	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R4426	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R4427,28	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R4429-31	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3	
R4432,33	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R6001	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6002	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1	
R6004,05	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R6007	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6010	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R6015	D1H84734A008	COMBI.R-R 47K	1	
R6016	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R6019	D1H84734A008	COMBI.R-R 47K	1	
R6022	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6025	D1H84734A008	COMBI.R-R 47K	1	
R6029	D1H84734A008	COMBI.R-R 47K	1	
R6030	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R6031	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6033	D1H84734A008	COMBI.R-R 47K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R6034	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1	
R6035	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6036	D1H84734A008	COMBI.R-R 47K	1	
R6038	ERJ3RBD273	M.RESISTOR CH 1/16W 27K	1	
R6039	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6040	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6041	D1H84734A008	COMBI.R-R 47K	1	
R6042	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6044	EXB24V101J	COMBI.R-R 100	1	
R6045	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R6046,47	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R6048	EXB24V473J	COMBI.R-R 47K	1	
R6049	EXB24V101J	COMBI.R-R 100	1	
R6050	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6051	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6052,53	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R6054	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6055	EXB24V103J	COMBI.R-R 10K	1	
R6056	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6057,58	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R6059	EXB24V101J	COMBI.R-R 100	1	
R6060	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6062	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6063	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R6064-68	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	5	
R6069	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R6070	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6073,74	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R6079	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6080	EXB24V101J	COMBI.R-R 100	1	
R6081-85	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	5	
R6086,87	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R6103	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6104-09	D1H84734A008	COMBI.R-R 47K	6	
R6110	EXB24V473J	COMBI.R-R 47K	1	
R6111	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6113	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6114	D1H84734A008	COMBI.R-R 47K	1	
R6117	EXB24V473J	COMBI.R-R 47K	1	
R6118	D1H84734A008	COMBI.R-R 47K	1	
R6119	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6200	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6202	D1H84734A008	COMBI.R-R 47K	1	
R6203,04	D1H810240001	COMBI.R-R 1K	2	
R6205,06	D1H84734A008	COMBI.R-R 47K	2	
R6209	D1H84734A008	COMBI.R-R 47K	1	
R6210	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6212	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R6213	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6300,01	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R6302,03	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R6304	D1H84734A008	COMBI.R-R 47K	1	
R6307-10	D1H84734A008	COMBI.R-R 47K	4	
R6313,14	D1H84734A008	COMBI.R-R 47K	2	
R6315,16	D1H810240001	COMBI.R-R 1K	2	
R6317-20	ERJ6GEYG121	M.RESISTOR CH 1/10W 120	4	
R6321,22	D1H84734A008	COMBI.R-R 47K	2	
R6323	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6400	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6401	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R6405	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6406	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R6407-10	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	4	
R6500	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R6501-03	D1H84704A008	COMBI.R-R 47	3	
R6504	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R6505-10	D1H84704A008	COMBI.R-R 47	6	
R6511	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R6512	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R6513	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R6516	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R6517-23	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	7	
R7001	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R7002	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R7003	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7004	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	
R7005	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R7006	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R7088	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R7089	ERJ3RBD472	M.RESISTOR CH 1/16W 4.7K	1	
R7090	ERJ3RBD751	M.RESISTOR CH 1/16W 750	1	
R7091	ERJ3RBD102	M.RESISTOR CH 1/16W 1K	1	
R7092	ERJ3RBD121	M.RESISTOR CH 1/16W 120	1	
R7093	ERJ3RBD331	M.RESISTOR CH 1/16W 330	1	
R7094	ERJ3RED470	M.RESISTOR CH 1/16W 47	1	
R7095	ERJ3RBD181	M.RESISTOR CH 1/16W 180	1	
R7096	ERJ3RED470	M.RESISTOR CH 1/16W 47	1	
R7097	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R7098	ERJ3RED150	M.RESISTOR CH 1/16W 15	1	
R7099	D1H84734A008	COMBI.R-R 47K	1	
R7102	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7103	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7104.05	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
R7106.07	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R7108	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7109	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7110	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R7111,12	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R7114-16	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	3	
R7117	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7118	ERJ3GEYJ163	M.RESISTOR CH 1/16W 16K	1	
R7119	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R7121	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R7123	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7124	ERJ3GEYJ510	M.RESISTOR CH 1/16W 51	1	
R7125	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7126	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7127.28	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	2	
R7130	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7131	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R7132	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7133	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7134	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7135	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R7136	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R7137	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7138	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7139	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	
R7140	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7141.42	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R7143	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7144	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7145.46	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R7147	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7148	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7149	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7150	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R7151.52	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R7153	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R7154	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R7155	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7157	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7160	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7161	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7162	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7163	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7164	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7165	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7166	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7167	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7168	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R7169	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R7170	ERJ3GEYJ914	M.RESISTOR CH 1/16W 910K	1	
R7171	ERJ3RBD203	M.RESISTOR CH 1/16W 20K	1	
R7172	ERJ3RBD432	M.RESISTOR CH 1/16W 4.3K	1	
R7173	ERJ3RBD512	M.RESISTOR CH 1/16W 5.1K	1	
R7174	ERJ3RBD751	M.RESISTOR CH 1/16W 750	1	
R7175	ERJ3RBD683	M.RESISTOR CH 1/16W 68K	1	
R7176	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7177	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7178	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7179.80	ERJ3RBD471	M.RESISTOR CH 1/16W 470	2	
R7181	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7182	ERJ3RBD242	M.RESISTOR CH 1/16W 2.4K	1	
R7183	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7184	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R7185	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7186	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7187	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7188	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7189	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7190	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R7192	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R7197	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7198	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R7202	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7203	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7204.05	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
R7206.07	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R7208	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7209	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7210	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R7211.12	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R7214-16	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	3	
R7217	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7218	ERJ3GEYJ163	M.RESISTOR CH 1/16W 16K	1	
R7219	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R7221	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R7223	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7224	ERJ3GEYJ510	M.RESISTOR CH 1/16W 51	1	
R7225	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7226	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7227.28	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	2	
R7230	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7231	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R7232	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7233	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7234	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7235	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R7236	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R7237	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7238	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7239	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	
R7240	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7241.42	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R7243	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7244	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7245.46	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R7247	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7248	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7249	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7250	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R7251.52	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R7253	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R7254	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R7255	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7257	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7260	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7261	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7262	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7263	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7264	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7265	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7266	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7267	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7268	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R7269	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R7270	ERJ3GEYJ914	M.RESISTOR CH 1/16W 910K	1	
R7271	ERJ3RBD203	M.RESISTOR CH 1/16W 20K	1	
R7272	ERJ3RBD432	M.RESISTOR CH 1/16W 4.3K	1	
R7273	ERJ3RBD512	M.RESISTOR CH 1/16W 5.1K	1	
R7274	ERJ3RBD751	M.RESISTOR CH 1/16W 750	1	
R7275	ERJ3RBD683	M.RESISTOR CH 1/16W 68K	1	
R7276	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7277	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7278	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7279,80	ERJ3RBD471	M.RESISTOR CH 1/16W 470	2	
R7281	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7282	ERJ3RBD242	M.RESISTOR CH 1/16W 2.4K	1	
R7283	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7284	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R7285	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7286	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7287	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7288	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7289	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7290	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R7292	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R7297	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7298	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R7302	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7303	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7304,05	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
R7306,07	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R7308	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R7309	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7310	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
R7311,12	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R7314-16	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	3	
R7317	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7318	ERJ3GEYJ163	M.RESISTOR CH 1/16W 16K	1	
R7319	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R7321	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R7323	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7324	ERJ3GEYJ510	M.RESISTOR CH 1/16W 51	1	
R7325	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7326	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7327,28	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	2	
R7330	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7331	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R7332	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7333	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7334	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R7335	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R7336	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R7337	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7338	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7339	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	
R7340	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7341,42	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R7343	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7344	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7345,46	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
R7347	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7348	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7349	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7350	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R7351,52	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R7353	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R7354	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R7355	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R7357	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7360	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7361	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7362	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7363	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7364	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7365	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7366	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7367	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7368	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R7369	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R7370	ERJ3GEYJ914	M.RESISTOR CH 1/16W 910K	1	
R7371	ERJ3RBD203	M.RESISTOR CH 1/16W 20K	1	
R7372	ERJ3RBD432	M.RESISTOR CH 1/16W 4.3K	1	
R7373	ERJ3RBD512	M.RESISTOR CH 1/16W 5.1K	1	
R7374	ERJ3RBD751	M.RESISTOR CH 1/16W 750	1	
R7375	ERJ3RBD683	M.RESISTOR CH 1/16W 68K	1	
R7376	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7377	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R7378	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7379,80	ERJ3RBD471	M.RESISTOR CH 1/16W 470	2	
R7381	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7382	ERJ3RBD242	M.RESISTOR CH 1/16W 2.4K	1	
R7383	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R7384	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R7385	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7386	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7387	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7388	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R7389	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R7390	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R7392	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R7397	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R7398	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R7501,02	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R7503	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7504	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7506	ERJ3RBD104	M.RESISTOR CH 1/16W 100K	1	
R7507	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7508	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7509	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7511	ERJ3RBD104	M.RESISTOR CH 1/16W 100K	1	
R7512	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7513	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7514	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7516	ERJ3RBD104	M.RESISTOR CH 1/16W 100K	1	
R7517,18	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R7519	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7520	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7521	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R7522	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R7523	ERJ3RBD104	M.RESISTOR CH 1/16W 100K	1	
R7524	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7525	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7526	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7527	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R7528	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R7529	ERJ3RBD104	M.RESISTOR CH 1/16W 100K	1	
R7530	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R7531	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R7532	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R7533	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R7534	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R7535	ERJ3RBD104	M.RESISTOR CH 1/16W 100K	1	
R8001	EXB24V473J	COMBI.R-R 47K	1	
R8002	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R8007	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8010	D1H84734A008	COMBI.R-R 47K	1	
R8017	ERJ3RBD432	M.RESISTOR CH 1/16W 4.3K	1	
R8018	ERJ3RBD472	M.RESISTOR CH 1/16W 4.7K	1	
R8049	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R8050	ERJ3RBD332	M.RESISTOR CH 1/16W 3.3K	1	
R8051,52	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
R8053	EXB24V101J	COMBI.R-R 100	1	
R8055	D1H810140001	COMBI.R-R 100	1	
R8059	ERJ3RBD433	M.RESISTOR CH 1/16W 43K	1	
R8060	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R8061	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R8062	ERJ3GEYJ433	M.RESISTOR CH 1/16W 43K	1	
R8063,64	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R8065	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R8066	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R8067	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8096	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8097	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R8098	ERJ3GEYJ512	M.RESISTOR CH 1/16W 5.1K	1	
R8099	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R8100,01	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R8104	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8106	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R8111	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R8112,13	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R8121	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R8123	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R8124	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R8125	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8131	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8132	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R8134,35	ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	2	
R8138	ERJ3GEYJ623	M.RESISTOR CH 1/16W 62K	1	
R8139	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	
R8152	ERJ3RBD431	M.RESISTOR CH 1/16W 430	1	
R8182	ERJ3GEYJ750	M.RESISTOR CH 1/16W 75	1	
R8183	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R8184	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R8186	ERJ3GEYJ684	M.RESISTOR CH 1/16W 680K	1	
R8187	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R8188	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8189	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R8190	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R8191	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R8192	ERJ3GEYJ912	M.RESISTOR CH 1/16W 9.1K	1	
R8193	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
R8194,95	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R8196	ERJ3GEYJ512	M.RESISTOR CH 1/16W 5.1K	1	
R8197,98	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R8199	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R8201,02	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R8203	ERJ3GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R8204	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R8206	ERJ3RBD122	M.RESISTOR CH 1/16W 1.2K	1	
R8223,24	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R8225	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R8227	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
R8232	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R8233	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	1	
R8235	ERJ3GEYJ362	M.RESISTOR CH 1/16W 3.6K	1	
R8248	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R8249	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R8250	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R8251	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R8252	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R8253	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R8254	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R8255	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8256	ERJ3RBD202	M.RESISTOR CH 1/16W 2K	1	
R8259	ERJ3RBD511	M.RESISTOR CH 1/16W 510	1	
R8263	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R8264	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8265	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R8266	ERJ3RBD682	M.RESISTOR CH 1/16W 6.8K	1	
R8267	ERJ3RBD202	M.RESISTOR CH 1/16W 2K	1	
R8268	ERJ3RBD911	M.RESISTOR CH 1/16W 910	1	
R8269	ERJ3RBD222	M.RESISTOR CH 1/16W 2.2K	1	
R8270-73	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	4	
R8276	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R8277	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	
R8281	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R8291	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R8299	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8301	ERJ3RBD201	M.RESISTOR CH 1/16W 200	1	
R8305	ERJ3RBD912	M.RESISTOR CH 1/16W 9.1K	1	
R8307	ERJ3RBD271	M.RESISTOR CH 1/16W 270	1	
R8308	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8309	D1H84734A008	COMBI.R-R 47K	1	
R8313	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R8319	ERJ3GEYJ225	M.RESISTOR CH 1/16W 2.2M	1	
R8320,21	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R8401	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8402	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R8403	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8406	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8410	ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R8423	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8427	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8434,35	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R8438	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8440	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8442	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R8445	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8446	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8447	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
R8448	ERJ3RBD362	M.RESISTOR CH 1/16W 3.6K	1	
R8449	ERJ3RBD332	M.RESISTOR CH 1/16W 3.3K	1	
R8450	ERJ3RBD392	M.RESISTOR CH 1/16W 3.9K	1	
R8451	D4B332500001	THERMISTOR	1	
R8452	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R8453	ERJ3GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R8454	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	
R8455	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8456	ERJ3GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R8457	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1	
R8458,59	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R8460	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R8550-53	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	4	
R8605	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8607	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8610	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8650	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	1	
R8651	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R8652	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8653	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R8654	ERJ3GEYJ162	M.RESISTOR CH 1/16W 1.6K	1	
R8655	ERJ3GEYJ132	M.RESISTOR CH 1/16W 1.3K	1	
R8656	ERJ3GEYJ363	M.RESISTOR CH 1/16W 36K	1	
R8660	ERJ3RBD113	M.RESISTOR CH 1/16W 11K	1	
R8661	ERJ3RBD123	M.RESISTOR CH 1/16W 12K	1	
R8662	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R8663,64	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R8700,01	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R8702	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8703	EXB24V473J	COMBI.R-R 47K	1	
R8704	ERJ3RBD242	M.RESISTOR CH 1/16W 2.4K	1	
R8708	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R8709	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R8711	D1H84734A008	COMBI.R-R 47K	1	
R8712	ERJ3GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R8713	EXB24V101J	COMBI.R-R 100	1	
R8714,15	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R8716,17	EXB24V101J	COMBI.R-R 100	2	
R8718	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R8719	EXB24V101J	COMBI.R-R 100	1	
R8750-55	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	6	
R8756	ERJ3RBD392	M.RESISTOR CH 1/16W 3.9K	1	
R8757	ERJ3RBD223	M.RESISTOR CH 1/16W 22K	1	
R8758	ERJ3RBD333	M.RESISTOR CH 1/16W 33K	1	
R8759-61	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	3	
R8762	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R8763,64	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R8766	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	1	
R8767	ERJ3RBD393	M.RESISTOR CH 1/16W 39K	1	
R8768	ERJ3RBD223	M.RESISTOR CH 1/16W 22K	1	
R8769,70	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R8771	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R8772	ERJ3RBD223	M.RESISTOR CH 1/16W 22K	1	
R8773	ERJ3RBD391	M.RESISTOR CH 1/16W 390	1	
R8774	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
R8775,76	ERJ3RBD333	M.RESISTOR CH 1/16W 33K	2	
R8777,78	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R8779	EXB24V473J	COMBI.R-R 47K	1	
R8785	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1	
R8790	ERDS2TJ103	C.RESISTOR 1/2W 10K	1	
R8800	ERJ3RBD561	M.RESISTOR CH 1/16W 560	1	
R8801-03	ERJ3RED750	M.RESISTOR CH 1/16W 75	3	
R8804-06	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	3	
R8807	ERJ3RBD113	M.RESISTOR CH 1/16W 11K	1	
R8808	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	1	
R8810	ERJ3RBD123	M.RESISTOR CH 1/16W 12K	1	
R8811	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
R8813	ERJ3RBD201	M.RESISTOR CH 1/16W 200	1	
R8814	ERJ3RBD822	M.RESISTOR CH 1/16W 8.2K	1	
R8815	ERJ3GEYJ302	M.RESISTOR CH 1/16W 3K	1	
R8816	ERJ3RBD123	M.RESISTOR CH 1/16W 30K	1	
R8817	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R8818	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1		C105	ECUM1C334KBN	C.CAPACITOR CH 16V 0.33U	1	
R8819	ERJ3RBD201	M.RESISTOR CH 1/16W 200	1		C106	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
R8820	ERJ3RBD822	M.RESISTOR CH 1/16W 8.2K	1		C107,08	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	2	
R8821	ERJ3GEYJ302	M.RESISTOR CH 1/16W 3K	1		C110,11	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	2	
R8822	ERJ3RBD201	M.RESISTOR CH 1/16W 200	1		C113	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
R8823	ERJ3RBD822	M.RESISTOR CH 1/16W 8.2K	1		C115	EEVHB1C100	E.CAPACITOR 16V 10U	1	
R8824	ERJ3GEYJ302	M.RESISTOR CH 1/16W 3K	1		C117,18	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
R8825	ERJ3RBD243	M.RESISTOR CH 1/16W 24K	1		C119,20	ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	2	
R8826	ERJ3RBD123	M.RESISTOR CH 1/16W 12K	1		C121	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
R8827	ERJ3RBD362	M.RESISTOR CH 1/16W 3.6K	1		C122	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
R8828	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1		C125	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
					C126	EEVHB1C220	E.CAPACITOR 16V 22U	1	
RY4000,01	K6B2CDB00010	RELAY	2		C127-29	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	3	
SW6300	VSS0367-04B	SWITCH	1		C200,01	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
					C203,04	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	2	
TG3001	EYF6CU	TEST POINT	1		C205	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
TG3701	EYF6CU	TEST POINT	1		C206	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
TG7001	EYF6CU	TEST POINT	1		C207	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	1	
					C208,09	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2	
TP1	EYF6CU	TEST POINT	1		C210	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
TP3001-03	EYF6CU	TEST POINT	3		C211	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
TP3303-06	EYF6CU	TEST POINT	4		C212	EEVHB1C220	E.CAPACITOR 16V 22U	1	
TP3413-15	EYF6CU	TEST POINT	3		C213	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
TP3603	EYF6CU	TEST POINT	1		C214,15	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	2	
TP3701	EYF6CU	TEST POINT	1		C216	ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
TP4100,01	EYF6CU	TEST POINT	2		C217	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
TP6100	EYF6CU	TEST POINT	1		C219	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
TP7101	EYF6CU	TEST POINT	1		C220	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
TP7201	EYF6CU	TEST POINT	1		C221	ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	1	
TP7301	EYF6CU	TEST POINT	1		C222	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
TP8001	EYF6CU	TEST POINT	1		C223-25	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	3	
					C226	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
VC6100	VCV0047	TRIMMER	1		C227	EEVHB1C220	E.CAPACITOR 16V 22U	1	
					C228	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
VR3701	EVM7JGA00B52	V.RESISTOR 500	1		C229,30	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	2	
VR4400,01	EVM7JGA00B14	V.RESISTOR 10K	2		C231	EEVHB1C100	E.CAPACITOR 16V 10U	1	
VR8283	EVM7JGA00B14	V.RESISTOR 10K	1		C232-37	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	6	
					C238-40	EEVHB1E330P	E.CAPACITOR 25V 33U	3	
X3401	VSX0847	CRYSTAL OSCILLATOR	1	H0J270500019	C241	EEVHB1C100	E.CAPACITOR 16V 10U	1	
X6100	VSX0602	CRYSTAL OSCILLATOR	1	H0J327200050	C242	EEVHB1C220	E.CAPACITOR 16V 22U	1	
X6500	VSX0641	CRYSTAL OSCILLATOR	1		C300,01	EEVHB1H3R3	E.CAPACITOR 50V 3.3U	2	
X8001	H0J120500005	CRYSTAL OSCILLATOR	1		C302,03	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	2	
X8002,03	H0J286500009	CRYSTAL OSCILLATOR	2		C304	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
					C305	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
					C306	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
		MISCELLANEOUS			C307	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
					C308,09	EEVHB1E4R7	E.CAPACITOR 25V 4.7U	2	
VMS6507	C.B.A. POST		2	K9ZZ00000592	C310-13	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	4	
XYN26+K6	SCREW		4		C314	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
					C315	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
					C316	EEVHB1E4R7	E.CAPACITOR 25V 4.7U	1	
					C317	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
					C318	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
■ E2	VEP82237A	RF & SERVO C.B.A.	1	(RTL)	C319-21	EEVHB1E4R7	E.CAPACITOR 25V 4.7U	3	
■	VEP80C23A	SERVO SUB C.B.A.	1	(RTL)FOR VEP82237A	C322-27	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	6	
					C328,29	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	2	
					C330,31	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	2	
C1	EEVHB0J330	E.CAPACITOR 6.3V 33U	1		C400,01	EEVHB1H3R3	E.CAPACITOR 50V 3.3U	2	
C2	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1		C402-05	F1K0J1060002	C.CAPACITOR CH6.3V 10U	4	
C4	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		C406-09	ECUX1H102JV	C.CAPACITOR CH 50V 1000P	4	
C5	ECUX1H681JCV	C.CAPACITOR CH 50V 680P	1		C410	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C6	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		C411	EEVHB1H3R3	E.CAPACITOR 50V 3.3U	1	
C7-10	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	4		C412	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C11	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		C413-16	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	4	
C12	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1		C417	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C13	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		C418-20	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	3	
C14	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1		C421	EEVHB1C100	E.CAPACITOR 16V 10U	1	
C18	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		C422	EEVHB1H3R3	E.CAPACITOR 50V 3.3U	1	
C20	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1		C423	EEVHB1E330P	E.CAPACITOR 25V 33U	1	
C25	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1		C424	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
C100,01	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	2		C425,26	EEVHB0J330	E.CAPACITOR 6.3V 33U	2	
C102	EEVHB1C220	E.CAPACITOR 16V 22U	1		C600	EEVHB1C220	E.CAPACITOR 16V 22U	1	
C103	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1		C601	EEVHB1E4R7	E.CAPACITOR 25V 4.7U	1	
C104	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1		C602	EEVHB1E330P	E.CAPACITOR 25V 33U	1	
					C603-05	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	3	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C700	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
C702-16	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	15	
C800-03	VCE0180	E.CAPACITOR	4	F2G1E1010003
C804	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
C805-08	VCE0180	E.CAPACITOR	4	F2G1E1010003
C809	VCC0037F432	C.CAPACITOR 432P	1	
C810	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C811	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
C812	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C813	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	1	
C814	ECUX1C105KBM	C.CAPACITOR CH 16V 1U	1	
C900,01	ECUX1H104KBV	C.CAPACITOR CH 50V 0.1U	2	
C902,03	ECA12HG472L	E.CAPACITOR 4700U	2	
D100	MA165	DIODE	1	
D200	MA142WK	DIODE	1	
D201	MA3J14300L	DIODE	1	
D202	MA142WK	DIODE	1	
D203	MA3J14300L	DIODE	1	
D300,01	MA142WK	DIODE	2	
D400-03	MA3J14300L	DIODE	4	
D404,05	MA736	DIODE	2	
D600-02	MA142WK	DIODE	3	
D603	MA3J14300L	DIODE	1	
D604	MA3056-L	DIODE	1	
D605	MA3051-M	DIODE	1	
D606	MA738	DIODE	1	
D607	MA142WK	DIODE	1	
D700-02	MA142WK	DIODE	3	
D703,04	MA8047-H	DIODE	2	
D705	MA8062-H	DIODE	1	
D706,07	MA3043-M	DIODE	2	
D708	MA3051-M	DIODE	1	
D709-20	EC15QS04	DIODE	12	
D800-03	MA728	DIODE	4	
D804-07	MA736	DIODE	4	
D900	MA8051-H	DIODE	1	
D901	NSQ03A04	DIODE	1	B0JCPE000013
IC1	AN3732FHQ	IC	1	
IC3	XC62FP3002P	IC	1	
IC100	TVHC14FT	IC	1	
IC101	XC62FP3302P	IC	1	
IC102,03	TVHC74FT	IC	2	
IC104	TVHC86FT	IC	1	
IC105	S80829ANUP	IC	1	
IC106	TC7WU04FU	IC	1	
IC107	MN1030F04K	IC	1	
IC200	XC62FP5002P	IC	1	
IC201	TA75W393FU	IC	1	
IC202,03	NJM2902V	IC	2	
IC204	AN3890FBS	IC	1	
IC205	NJM2901M	IC	1	C0BBCA000008
IC206	TVHC14FT	IC	1	
IC207	AN3890FBS	IC	1	
IC208,09	MDC05	IC	2	
IC300	NJM2902V	IC	1	
IC301,02	AN3841SR	IC	2	
IC400	NJM2902V	IC	1	
IC401	UPC4558G2	IC	1	C0ABBB000131
IC402	NJM2902V	IC	1	
IC403	NJM2901M	IC	1	C0BBCA000008
IC404	UPC4558G2	IC	1	C0ABBB000131
IC602	BA6219BFP-Y	IC	1	
IC700	TC4538BF	IC	1	
IC701-03	BA6219BFP-Y	IC	3	
IC800	TL1451CNS	IC	1	
IC900	NJM2904M	IC	1	
J1	VJR1094	TERMINAL	1	
J500-02	VJR1094	TERMINAL	3	
L1	VLQ0319K101	COIL 100UH	1	G1C101K00022
L2	VLQ0319K100	COIL 10UH	1	G1C100K00023
L600	VLQ0319K101	COIL 100UH	1	G1C101K00022

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L800-03	VLQ0650M151	COIL 150UH	4	G1C151MA0016
P1	VJS3900A024	CONNECTOR (FEMALE)	1	
P2	VJS3801D024	CONNECTOR (FEMALE)	1	
P501	VJP3172D002	CONNECTOR (MALE)	1	K1KA02B00051
P502	VJP3172D004	CONNECTOR (MALE)	1	K1KA04B00007
P503	VJP3172D002	CONNECTOR (MALE)	1	K1KA02B00051
P504	VJP3172D003	CONNECTOR (MALE)	1	K1KA03B00006
P505	VJP3518B002	CONNECTOR (MALE)	1	
P506	VJP3172D003	CONNECTOR (MALE)	1	K1KA03B00006
P507	VJS3801B010	CONNECTOR (FEMALE)	1	
P508	VJP3518B002	CONNECTOR (MALE)	1	
P509	VJP3172D002	CONNECTOR (MALE)	1	K1KA02B00051
P510	VJP3518B003	CONNECTOR (MALE)	1	
P511	VJP3518B002	CONNECTOR (MALE)	1	
P512	VJP3172D004	CONNECTOR (MALE)	1	K1KA04B00007
P513	VJS3406B015	CONNECTOR (FEMALE)	1	
P514,15	VJS3813C017	CONNECTOR (FEMALE)	2	K1MN17B00012
P516	VJS3406B019	CONNECTOR (FEMALE)	1	
P517	VJP1235T	CONNECTOR (MALE) 8P	1	
P518	VJP3125B002	CONNECTOR (MALE)	1	K1KA02B00111
P520	VJS3826A020	CONNECTOR (FEMALE)	1	
P521	VJS3801B040	CONNECTOR (FEMALE)	1	
P522	VJS3801D024	CONNECTOR (FEMALE)	1	
Q200-03	2SD1819A-R	TRANSISTOR	4	
Q400	2SB1219A-R	TRANSISTOR	1	
Q600	2SD1819A-R	TRANSISTOR	1	
Q601	2SD1624-S	TRANSISTOR	1	
Q602	2SB1073-R	TRANSISTOR	1	
Q603	2SD1819A-R	TRANSISTOR	1	
Q700-02	2SD601-R	TRANSISTOR	3	
Q703-05	2SB1073-R	TRANSISTOR	3	
Q800-03	2SB1073-R	TRANSISTOR	4	
Q900	2SB936A-Q	TRANSISTOR	1	
Q901	2SD1819A-R	TRANSISTOR	1	
QR1-R3	UNR521400L	TRANSISTOR-RESISTOR	3	
QR200-02	UNR521300L	TRANSISTOR-RESISTOR	3	
QR600	UNR521400L	TRANSISTOR-RESISTOR	1	
QR601	UNR511400L	TRANSISTOR-RESISTOR	1	
QR602	UNR521400L	TRANSISTOR-RESISTOR	1	
QR603	UNR511400L	TRANSISTOR-RESISTOR	1	
QR604,05	UNR521400L	TRANSISTOR-RESISTOR	2	
QR700	UNR521300L	TRANSISTOR-RESISTOR	1	
QR701-06	UNR521400L	TRANSISTOR-RESISTOR	6	
QR707-12	UNR511400L	TRANSISTOR-RESISTOR	6	
QR713-18	UNR521300L	TRANSISTOR-RESISTOR	6	
R3	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R4	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R5	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R6	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R9-12	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	4	
R15	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R16	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R17	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R19	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R20	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R21	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R34	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R35	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R38,39	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R100	D1H810140001	COMBI.R-R 100	1	
R101	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R102	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R103	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R104-07	D1H810140001	COMBI.R-R 100	4	
R108	D1H84734A008	COMBI.R-R 47K	1	
R109	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R110	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R113	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R114,15	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R116	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R117	ERJ3GEYJ120	M.RESISTOR CH 1/16W 12	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R118	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R119	D1H810140001	COMBLR-R 100	1	
R120	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R121,22	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2	
R123,24	D1H84734A008	COMBLR-R 47K	2	
R125	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R126	D1H84734A008	COMBLR-R 47K	1	
R127	D1H810140001	COMBLR-R 100	1	
R128	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R129	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R130,31	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	2	
R133	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R134	D1H84734A008	COMBLR-R 47K	1	
R135	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R136	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R137	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R139	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R140	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R142	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R143	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R200	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R201	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R202	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R203	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R204	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R205	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R206	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R207	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R208	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R209	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R210	ERJ6RBD333	M.RESISTOR CH 1/10W 33K	1	
R211	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R212	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R213	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R214	ERJ6RBD153	M.RESISTOR CH 1/10W 15K	1	
R215	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R216	ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1	
R217	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1	
R218	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R219	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R220-22	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	3	
R223	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R224	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R225	ERJ8GEYJ681	M.RESISTOR CH 1/8W 680	1	
R226	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R227	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R228	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R229	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R230	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R231	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R232	ERJ8GEYJ1R0	M.RESISTOR CH 1/8W 1	1	
R233	ERJ8GEYJ1R2	M.RESISTOR CH 1/8W 1.2K	1	
R234,35	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R236	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R237	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R238	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R239	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R240	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R241	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R242	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R243	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R244	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R245	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R246	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R247	ERJ6RBD333	M.RESISTOR CH 1/10W 33K	1	
R248	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R249	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R250	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R251	ERJ6RBD153	M.RESISTOR CH 1/10W 15K	1	
R253	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R254	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R255	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R256	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R257	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R258	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R259	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R260	ERJ8GEYJ681	M.RESISTOR CH 1/8W 680	1	
R261	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R262	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R263	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R263	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R264	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R265	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R266	ERJ8GEYJ1R0	M.RESISTOR CH 1/8W 1	1	
R267	ERJ8GEYJ1R2	M.RESISTOR CH 1/8W 1.2K	1	
R268	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R269	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R270	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R271	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R272,73	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	2	
R274	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R275,76	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	2	
R300	ERJ6RBD333	M.RESISTOR CH 1/10W 33K	1	
R301	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R302	ERJ6RBD333	M.RESISTOR CH 1/10W 33K	1	
R303	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R304	ERJ6RBD223	M.RESISTOR CH 1/10W 22K	1	
R305,06	ERJ6RBD153	M.RESISTOR CH 1/10W 15K	2	
R307	ERJ6RBD223	M.RESISTOR CH 1/10W 22K	1	
R308-11	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	4	
R313	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R314	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R315	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R316	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R317	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R318	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R319	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R320	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R322-25	ERJ8GEYJ1R0	M.RESISTOR CH 1/8W 1	4	
R326-31	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	6	
R332	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R333	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R334	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R335	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R400-03	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	4	
R404,05	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R406,07	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R408-11	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	4	
R412-16	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	5	
R417	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R418	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R419-22	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	4	
R424-27	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	4	
R428	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R429-32	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	4	
R433	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	1	
R434	ERJ6RBD222	M.RESISTOR CH 1/10W 2.2K	1	
R435	ERJ6RBD682	M.RESISTOR CH 1/10W 6.8K	1	
R436	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
R437	ERJ3RBD821	M.RESISTOR CH 1/16W 820	1	
R438	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R439	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R500	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R501	D1H84734A008	COMBLR-R 47K	1	
R502	D1H810140001	COMBLR-R 100	1	
R600	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R601	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R602	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R603	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R604	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R605	ERJ6GEYG271	M.RESISTOR CH 1/10W 270	1	
R606	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R608	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R611	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R613	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R614,15	ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	2	
R617	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R619	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R621	ERJ8GEYJ300	M.RESISTOR CH 1/8W 30	1	
R622-25	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	4	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R136	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		C0010,11	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2	
R137	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1		C0012	F3G1V2250001	T.CAPACITOR CH 35V 2.2U	1	
R138,39	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		C0013	F3F1A1060001	T.CAPACITOR CH 10V 10U	1	
R140	ERJ3RBD682	M.RESISTOR CH 1/16W 6.8K	1		C0014	F3G1C1060002	T.CAPACITOR CH 16V 10U	1	
R141	ERJ3RBD121	M.RESISTOR CH 1/16W 120	1		C0015	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
R142	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1		C0017	SK41C336MC	T.CAPACITOR CH 16V 33U	1	
R144	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		C0018,19	F3H1A1070003	T.CAPACITOR CH 10V 100U	2	
R147	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		C0020-23	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	4	
R149-52	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	4		C0026	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	1	
R154,55	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2		C0027	F1H1H180A231	C.CAPACITOR CH 50V 18P	1	
R202	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		C0029	F3H1E1060005	T.CAPACITOR CH 25V 10U	1	
R203,04	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2		C0030	SK41C336MC	T.CAPACITOR CH 16V 33U	1	
R205	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1		C0031	F1H1H103A190	C.CAPACITOR CH 50V 0.01U	1	
R206	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		C0032	F1H1H102A190	C.CAPACITOR CH 50V 1000P	1	
R207,08	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2		C0033-35	F1J1H104A428	C.CAPACITOR CH 50V 0.1U	3	
R209,10	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	2		C0042	F3H1V6850002	T.CAPACITOR CH 35V 6.8U	1	
R213	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		C0043	F3F1A1060001	T.CAPACITOR CH 10V 10U	1	
R215	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1		C0044	F3H1V6850002	T.CAPACITOR CH 35V 6.8U	1	
R216	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		C0046	SK41C336MC	T.CAPACITOR CH 16V 33U	1	
R217	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1		C0047	F3F1A1060001	T.CAPACITOR CH 10V 10U	1	
R218	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		C0048	SK41C336MC	T.CAPACITOR CH 16V 33U	1	
R220,21	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2		C0051,52	F1H1A105A004	C.CAPACITOR CH 10V 1U	2	
R223,24	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2		C0053	F3H1A1070003	T.CAPACITOR CH 10V 100U	1	
R225	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		C0054,55	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	2	
R229	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1						
R231	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		D0005	MA159	DIODE	1	
R233	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1						
R302	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1		J0001	K1MM21B00003	CONNECTOR	1	
R304	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		J0002	K1MZ30B00002	CONNECTOR	1	
R306	ERJ3GEYJ270	M.RESISTOR CH 1/16W 27	1						
R307	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		Q0004	2SC4176	TRANSISTOR	1	B1ABDB000014
R309,10	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2		Q0005	2SA1610	TRANSISTOR	1	
R312,13	ERJ3RBD123	M.RESISTOR CH 1/16W 12K	2		Q0009	2SB1218AHL	TRANSISTOR	1	
R314-16	ERJ3RED560	M.RESISTOR CH 1/16W 56	3		Q0010,11	2SD1819AHL	TRANSISTOR	2	
R318	ERJ3RED560	M.RESISTOR CH 1/16W 56	1		Q0012	2SB1218AHL	TRANSISTOR	1	
R319	ERJ3RBD512	M.RESISTOR CH 1/16W 5.1K	1		Q0013	2SB09700HL	TRANSISTOR	1	
R408,09	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2		Q0014	2SD1819AHL	TRANSISTOR	1	
					Q0015	2SD13280HL	TRANSISTOR	1	
X201	VSX0846	CRYSTAL OSCILLATOR	1	H0J245500014	Q0016	2SB1218AHL	TRANSISTOR	1	
					R0002	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
					R0003,04	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	2	
					R0005	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
					R0008	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
■ E4	VEP80C03A	VTR S/S C.B.A.	1	(RTL)	R0010	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
					R0011	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
					R0012-15	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	4	
P11	VJP1230T	CONNECTOR (MALE) 3P	1		R0016-21	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	6	
					R0028	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
SW11	EVQQS205K	SWITCH	1		R0029	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
					R0031	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
					R0033	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	1	
					R0034	ERJ3GEYJ100	M.RESISTOR CH 1/16W 10	1	
					R0035	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
					R0036	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
■ E5	VEP83564A	PRE AMP C.B.A.	1	(RTL)	R0041-43	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	3	
					R0047,48	ERJ3GEYJ150	M.RESISTOR CH 1/16W 15	2	
IC1	NJM431U	IC	1	C0DBEZC00003	R0049	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
					R0050	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
					R0051	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R1	ERJ3RBD472	M.RESISTOR CH 1/16W 4.7K	1		R0052	ERJ3RBD133	M.RESISTOR CH 1/16W 13K	1	
R2	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1		R0053	ERJ3RBD622	M.RESISTOR CH 1/16W 6.2K	1	
R3	ERJ3RBD332	M.RESISTOR CH 1/16W 3.3K	1		R0054	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R4	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		R0055	ERJ3RBD303	M.RESISTOR CH 1/16W 30K	1	
					R0056	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
					R0057	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
					R0060,61	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	2	
					R0062	ERJ3RBD912	M.RESISTOR CH 1/16W 9.1K	1	
					R0063	ERJ3RBD822	M.RESISTOR CH 1/16W 8.2K	1	
■ E6	WE600PKF1B	DRIVE C.B.A.	1	(RTL)	R0064	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
					R0065	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
					R0068,69	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
C0001	F3H1A2260003	T.CAPACITOR CH 10V 22U	1		R0070	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
C0002	F3F1A1060001	T.CAPACITOR CH 10V 10U	1		R0074	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
C0003-08	F1H1E104A016	C.CAPACITOR CH 25V 0.1U	6						

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D206	EC10QS1012	DIODE	1		P3	K1KA07B00006	CONNECTOR (MALE) 4P	1	
D207	MA142WK	DIODE	1		P4	VJP2824B003	CONNECTOR (MALE)	1	K1KA03B00005
D300-03	MA142WA	DIODE	4						
D304-06	MA8068-MH	DIODE	3		Q1	2SD1820A-R	TRANSISTOR	1	
D307	S3V60	DIODE	1	B0EAKR000020	Q2	2SB1219A-R	TRANSISTOR	1	
D308	MA142WK	DIODE	1		Q3	B1DHEG000002	TRANSISTOR	1	
D309	MA142WA	DIODE	1		Q5	2SD1820A-R	TRANSISTOR	1	
D310	MA142WK	DIODE	1		Q6	2SB1219A-R	TRANSISTOR	1	
D400,01	MA142WK	DIODE	2		Q7	XN4401	TRANSISTOR-RESISTOR	1	
D404	NSQ03A04	DIODE	1	B0JCPE000013	Q8	2SD1820A-R	TRANSISTOR	1	
					Q9	B1DHEG000002	TRANSISTOR	1	
IC1	BA9706K	IC	1	C0DBAZZ00012	Q10,11	2SD1820A-R	TRANSISTOR	2	
IC100	BA9706K	IC	1	C0DBAZZ00012	Q12	2SB1219A-R	TRANSISTOR	1	
IC200	BA9743AFV	IC	1		Q13	B1DHEG000002	TRANSISTOR	1	
IC300	NJM78L05UA	IC	1	C0CBADC00010	Q100	2SD1820A-R	TRANSISTOR	1	
IC301	NJM2903M	IC	1		Q101	2SB1219A-R	TRANSISTOR	1	
IC400	BA9743AFV	IC	1		Q102	B1DHEG000002	TRANSISTOR	1	
					Q105	2SD1820A-R	TRANSISTOR	1	
JP1	VMP6346	EARTH LUG	1		Q106	2SB1219A-R	TRANSISTOR	1	
					Q107	XN4401	TRANSISTOR-RESISTOR	1	
L1	VLP0353	COIL	1		Q108	2SD1820A-R	TRANSISTOR	1	
L1	VLQ0417	COIL	1	FOR VEP81220A	Q109	B1DHEG000002	TRANSISTOR	1	
L2	VLP0353	COIL	1		Q110	2SD1820A-R	TRANSISTOR	1	
L2	VLQ0417	COIL	1	FOR VEP81220A	Q111	2SB1219A-R	TRANSISTOR	1	
L3	VLP0353	COIL	1		Q112	2SK1748-Z	TRANSISTOR	1	
L4	J0JKC0000009	FILTER	1		Q200	2SD1820A-R	TRANSISTOR	1	
L5	G1C4R7M00009	COIL 4.7UH	1		Q201	2SB1219A-R	TRANSISTOR	1	
L6	J0JKC0000009	FILTER	1		Q202	B1DHEG000002	TRANSISTOR	1	
L7	VLQ0859M101	COIL 100UH	1		Q204	2SB1219A-R	TRANSISTOR	1	
L8	G1C6R8M00001	COIL 6.8UH	1		Q205	2SD2403	TRANSISTOR	1	
L9	J0JKC0000009	FILTER	1		Q300	2SB1219A-R	TRANSISTOR	1	
L10	G1C4R7M00009	COIL 4.7UH	1		Q301	2SJ280S	TRANSISTOR	1	B1DHJG000001
L11	J0JKC0000009	FILTER	1		Q302	2SD1820A-R	TRANSISTOR	1	
L12	VLQ0859M101	COIL 100UH	1		Q303	B1DHEG000002	TRANSISTOR	1	
L13	G1C6R8M00001	COIL 6.8UH	1		Q401	2SD1820A-R	TRANSISTOR	1	
L14	J0JKC0000009	FILTER	1		Q402	2SB1219A-R	TRANSISTOR	1	
L15	G1C4R7M00009	COIL 4.7UH	1		Q403	B1DHEG000002	TRANSISTOR	1	
L16	VLQ0859M221	COIL 220UH	1						
L17	J0JKC0000009	FILTER	1		QR1,R2	UNR511200L	TRANSISTOR-RESISTOR	2	
L18	G1C6R8M00001	COIL 6.8UH	1		QR3	UNR521100L	TRANSISTOR-RESISTOR	1	
L100-02	VLP0353	COIL	3		QR100,01	UNR511200L	TRANSISTOR-RESISTOR	2	
L103	J0JKC0000009	FILTER	1		QR102	UNR521100L	TRANSISTOR-RESISTOR	1	
L104	G1C4R7M00009	COIL 4.7UH	1		QR202,03	UNR511200L	TRANSISTOR-RESISTOR	2	
L105	J0JKC0000009	FILTER	1		QR300	UNR521100L	TRANSISTOR-RESISTOR	1	
L106	VLQ0859M101	COIL 100UH	1		QR301	UN5215	TRANSISTOR-RESISTOR	1	
L107	G1C6R8M00001	COIL 6.8UH	1		QR303	UNR521100L	TRANSISTOR-RESISTOR	1	
L108	J0JKC0000009	FILTER	1		QR400	UNR511200L	TRANSISTOR-RESISTOR	1	
L109	G1C4R7M00009	COIL 4.7UH	1		QR401,02	UNR521100L	TRANSISTOR-RESISTOR	2	
L110	J0JKC0000009	FILTER	1		QR403,04	UNR511200L	TRANSISTOR-RESISTOR	2	
L111	VLQ0859M221	COIL 220U	1						
L112	G1C6R8M00001	COIL 6.8UH	1		R1	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
L113	J0JKC0000009	FILTER	1		R2	ERJ3GEYJ113	M.RESISTOR CH 1/16W 11K	1	
L114	G1C4R7M00009	COIL 4.7UH	1		R3,R4	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
L115,16	G1A100G00006	COIL 10UH	2		R6	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
L200,01	VLP0353	COIL	2		R7-12	ERJ3RBD333	M.RESISTOR CH 1/16W 33K	6	
L202	J0JKC0000009	FILTER	1		R13	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
L203	G1C4R7M00009	COIL 4.7UH	1		R14,15	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
L204	J0JKC0000009	FILTER	1		R16	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
L205	VLQ0859M101	COIL 100UH	1		R17	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
L206	G1C6R8M00001	COIL 6.8UH	1		R18	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
L207	J0JKC0000009	FILTER	1		R19	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
L209	VLQ0319K680	COIL 68UH	1	G1C680KA0002	R20	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
L210	G1A102B00003	COIL 1000UH	1		R21	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
L300	VLQ0319K100	COIL 10UH	1	G1C100K00023	R22	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
L302-04	J0JKC0000009	FILTER	3		R23	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
L400	VLQ0319K100	COIL 10UH	1	G1C100K00023	R24	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
L401	VLP0353	COIL	1		R25	ERJ3RBD162	M.RESISTOR CH 1/16W 1.6K	1	
L402	J0JKC0000009	FILTER	1		R26	ERJ3RBD181	M.RESISTOR CH 1/16W 180	1	
L403	G1C4R7M00009	COIL 4.7UH	1		R27	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
L404	J0JKC0000009	FILTER	1		R28	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
L405	VLQ0859M680	COIL 68UH	1		R29	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
L406	G1C6R8M00001	COIL 6.8UH	1		R30	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
					R31	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
P1	VEE0M64	POWER CABLE	1		R35	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
P2	VEE0M65	POWER CABLE 2	1		R37	ERJ3GEYJ180	M.RESISTOR CH 1/16W 18	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q0108	2SC39310YL	TRANSISTOR	1		R0113	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
Q0109	2SA15320CL	TRANSISTOR	1		R0114	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
Q0110	B1CFDA000001	FET	1		R0115	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
Q0111,12	2SC39310YL	TRANSISTOR	2		R0116	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q0113	2SD1819AHL	TRANSISTOR	1		R0117	ERJ3GEYJ303	M.RESISTOR CH 1/16W 30K	1	
Q0114	2SC39310YL	TRANSISTOR	1		R0118	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
Q0115	2SD1819AHL	TRANSISTOR	1		R0119,20	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2	
Q0116-18	2SA15320CL	TRANSISTOR	3		R0121	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
Q0119	2SC39310YL	TRANSISTOR	1		R0122	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q0120-23	2SA15320CL	TRANSISTOR	4		R0123	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
Q0124	2SD1819AHL	TRANSISTOR	1		R0124	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
Q0125	2SC39310YL	TRANSISTOR	1		R0125	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q0126	2SD1819AHL	TRANSISTOR	1		R0126	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
Q0127	2SC39310YL	TRANSISTOR	1		R0127	EVM7JGA00B12	V.RESISTOR 100	1	
Q0128	2SA15320CL	TRANSISTOR	1		R0128	ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
Q0302	2SC39310YL	TRANSISTOR	1		R0129	ERJ3GEYJ302	M.RESISTOR CH 1/16W 3K	1	
Q0303	2SA15320CL	TRANSISTOR	1		R0130	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q0304	B1CFDA000001	FET	1		R0131	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
Q0305	2SC39310YL	TRANSISTOR	1		R0132	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
Q0306	2SA15320CL	TRANSISTOR	1		R0133	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
Q0307	B1CFDA000001	FET	1		R0134	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
Q0308	2SC39310YL	TRANSISTOR	1		R0135	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
Q0309	2SA15320CL	TRANSISTOR	1		R0136	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
Q0310	B1CFDA000001	FET	1		R0137	ERJ3GEYJ751	M.RESISTOR CH 1/16W 750	1	
Q0311,12	2SC39310YL	TRANSISTOR	2		R0138	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
Q0313	2SD1819AHL	TRANSISTOR	1		R0139	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
Q0314	2SC39310YL	TRANSISTOR	1		R0140	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
Q0315	2SD1819AHL	TRANSISTOR	1		R0141,42	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
Q0316-18	2SA15320CL	TRANSISTOR	3		R0143	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
Q0319	2SC39310YL	TRANSISTOR	1		R0144,45	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
Q0320-23	2SA15320CL	TRANSISTOR	4		R0146	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
Q0324	2SD1819AHL	TRANSISTOR	1		R0147	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
Q0325	2SC39310YL	TRANSISTOR	1		R0148	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q0326	2SD1819AHL	TRANSISTOR	1		R0149	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
Q0502	2SC39310YL	TRANSISTOR	1		R0150	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q0503	2SA15320CL	TRANSISTOR	1		R0151,52	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
Q0504	B1CFDA000001	FET	1		R0153	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
Q0505	2SC39310YL	TRANSISTOR	1		R0154	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
Q0506	2SA15320CL	TRANSISTOR	1		R0155	EVM7JGA00B23	V.RESISTOR 2K	1	
Q0507	B1CFDA000001	FET	1		R0156	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
Q0508	2SC39310YL	TRANSISTOR	1		R0157	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
Q0509	2SA15320CL	TRANSISTOR	1		R0158	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
Q0510	B1CFDA000001	FET	1		R0159	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
Q0511,12	2SC39310YL	TRANSISTOR	2		R0163	EVM7JGA00B23	V.RESISTOR 2K	1	
Q0513	2SD1819AHL	TRANSISTOR	1		R0165	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
Q0514	2SC39310YL	TRANSISTOR	1		R0167	ERJ3RBD912	M.RESISTOR CH 1/16W 9.1K	1	
Q0515	2SD1819AHL	TRANSISTOR	1		R0170	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q0516-18	2SA15320CL	TRANSISTOR	3		R0171	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
Q0519	2SC39310YL	TRANSISTOR	1		R0304	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
Q0520-23	2SA15320CL	TRANSISTOR	4		R0305	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q0524	2SD1819AHL	TRANSISTOR	1		R0306	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
Q0525	2SC39310YL	TRANSISTOR	1		R0307	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
Q0526	2SD1819AHL	TRANSISTOR	1		R0308	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
Q0527	2SC39310YL	TRANSISTOR	1		R0309	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
Q0528	2SA15320CL	TRANSISTOR	1		R0310	ERJ3GEYJ241	M.RESISTOR CH 1/16W 240	1	
					R0311	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
					R0312	ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R0003	ERJ3RBD163	M.RESISTOR CH 1/16W 16K	1		R0313	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0004	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1		R0314	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R0005	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R0315	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0007	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		R0316	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0009	ERJ3RBD273	M.RESISTOR CH 1/16W 27K	1		R0317	ERJ3GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R0010	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R0318	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R0012	ERJ3GEYJ203	M.RESISTOR CH 1/16W 20K	1		R0319,20	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2	
R0013	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R0321	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0101,02	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2		R0322	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0103	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1		R0323	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0104	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1		R0324	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0105	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R0325	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0106	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R0326	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R0107	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1		R0327	EVM7JGA00B12	V.RESISTOR 100	1	
R0108	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		R0328	ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
R0109	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1		R0329	ERJ3GEYJ302	M.RESISTOR CH 1/16W 3K	1	
R0110	ERJ3GEYJ241	M.RESISTOR CH 1/16W 240	1		R0330	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0111	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1		R0331	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R0112	ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1						

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R0332	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0333	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0334	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R0335	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R0336	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0337	ERJ3GEYJ751	M.RESISTOR CH 1/16W 750	1	
R0338	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0339	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0340	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R0341,42	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
R0343	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R0344,45	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
R0346	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R0347	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0348	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0349	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0350	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0351,52	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R0353	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R0354	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0355	EVM7JGA00B23	V.RESISTOR 2K	1	
R0356	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0357	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R0358	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R0359	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0363	EVM7JGA00B23	V.RESISTOR 2K	1	
R0370	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0371	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0504	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0505	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0506	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R0507	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R0508	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0509	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0510	ERJ3GEYJ241	M.RESISTOR CH 1/16W 240	1	
R0511	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R0512	ERJ3GEYJ242	M.RESISTOR CH 1/16W 2.4K	1	
R0513	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0514	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R0515	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0516	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0517	ERJ3GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R0518	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R0519,20	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2	
R0521	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0522	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0523	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0524	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0525	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0526	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R0527	EVM7JGA00B12	V.RESISTOR 100	1	
R0528	ERJ3GEYJ155	M.RESISTOR CH 1/16W 1.5M	1	
R0529	ERJ3GEYJ302	M.RESISTOR CH 1/16W 3K	1	
R0530	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0531	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R0532	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0533	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R0534	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R0535	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R0536	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0537	ERJ3GEYJ751	M.RESISTOR CH 1/16W 750	1	
R0538	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R0539	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R0540	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R0541,42	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
R0543	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R0544,45	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
R0546	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R0547	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0548	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0549	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0550	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0551,52	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R0553	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R0554	ERJ3GEYJ511	M.RESISTOR CH 1/16W 510	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R0555	EVM7JGA00B23	V.RESISTOR 2K	1	
R0556	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0557	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1	
R0558	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R0559	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R0563	EVM7JGA00B23	V.RESISTOR 2K	1	
R0565	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R0567	ERJ3RBD912	M.RESISTOR CH 1/16W 9.1K	1	
R0570	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R0580,81	ERDS2TJ102	C.RESISTOR 1/4W 1K	2	
U0001	NJM2904D	IC	1	
U0101	TC4W53FU	IC	1	
U0301	TC4W53FU	IC	1	
U0501	TC4W53FU	IC	1	
■ E17	VEP80B98A	R SIDE C.B.A.	1 (RTL)	
B1	BCR20H4	BUTTON BATTERY HOLDER	1	
C1	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C2	F1J0J475A006	C.CAPACITOR CH6.3V 1U	1	
C3-C5	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	3	
C6	ECEA0J5N470	E.CAPACITOR 6.3V 47U	1	
C7	ECEA1CSN4R7	E.CAPACITOR 16V 4.7U	1	
D1-D5	MA142WK	DIODE	5	
D6	MA142WA	DIODE	1	
D7-18	MA142WK	DIODE	12	
IC1	UPD16431AGC	IC	1	COHBA0000023
P1	VWJ03D5065AA	FLAT CABLE	1	
P2	VEE0N21	R SIDE CABLE	1	
P3	K1MN18B00013	CONNECTOR	1	
P4	VEE0N23	MENU JOG CABLE	1	
P5	VJP1243T	CONNECTOR (MALE) 3P	1	
P6	VWJ12D5060AA	FLAT CABLE	1	
P7	VEE0N22	POWER SW CABLE	1	
QR1,R2	UNR511300L	TRANSISTOR-RESISTOR	2	
R1	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R4,R5	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R6	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1	
R7	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R8,R9	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	2	
R11-14	ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	4	
R15	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R16	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R17	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R18	ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
R19-22	ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	4	
R23	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R25-28	ERJ14YJ100	M.RESISTOR CH 1/4W 10	4	
R33-36	ERJ8GEYJ102	M.RESISTOR CH 1/8W 1K	4	
R37	ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1	
R38-42	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	5	
SW1	K0D123A00042	SWITCH	1	
SW2	K0D123A00060	SWITCH	1	
SW3	K0D123A00042	SWITCH	1	
SW4,W5	K0D123A00060	SWITCH	2	
SW6	K0D123A00042	SWITCH	1	
SW7	K0D123A00060	SWITCH	1	
SW8	K0D123A00042	SWITCH	1	
SW9	EVQSB04B	SWITCH	1	
VR1,R2	VRV0080	V.RESISTOR	2	D2BCA14A0001

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		MISCELLANEOUS		
	VWB0123	CLAMPER	1	
■ E18	VEP80B99A	SCERNE FILE C.B.A.	1 (RTL)	
C8	F1J0J475A006	C.CAPACITOR CH6.3V 1U	1	
D21-24	MA142WK	DIODE	4	
P9	VWJ07D5030AA	FLAT CABLE	1	
R30	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R31	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
R32	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R43	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R44	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R45	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R46	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R47	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R48	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
SW11	EVQQS205K	SWITCH	1	
SW12	K0G119A00024	SWITCH	1	
VR3	D2BBC14Y0003	V.RESISTOR 10K	1	
■ E19	VEP80C00A	AUTO IRIS C.B.A.	1 (RTL)	
D19	LN48YCPP	LED	1	
SW13	EVQQS205K	SWITCH	1	
SW14	K0D123A00060	SWITCH	1	
SW15	EVQQS205K	SWITCH	1	
		MISCELLANEOUS		
	VMX2126	LED SPACER	1	
■ E20	VEP80C01A	LED C.B.A.	1 (RTL)	
D20	B3CKE0000005	LED	1	
		MISCELLANEOUS		
	VMX3083	LED SPACER	1	
■ E21	VEP80B94A	TOGGLE SW C.B.A.	1 (RTL)	
P1	VJP1236T	CONNECTOR (MALE) 9P	1	K1KA09A00023
SW1-W3	K0E113A00005	SWITCH	3	
SW4	K0E112A00043	SWITCH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E22	VEP80C02A	FRONT TOGGLE SW C.B.A.	1 (RTL)	
L1-L5	VLF1315A102	FILTER	5	J0JHC0000015
L6	J0JKC0000009	FILTER	1	
L7-L9	VLF1315A102	FILTER	3	J0JHC0000015
P1	VJP1598T	CONNECTOR (MALE) 5P	1	K1KA05A00104
P2	VJP1230T	CONNECTOR (MALE) 3P	1	
P4	VJP3125B010	CONNECTOR (MALE)	1	K1KA10B00136
P5	VJS3826A020	CONNECTOR (FEMALE)	1	
R2	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R4	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R5	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
SW1	VST0194	SWITCH	1	K0E132A00002
SW2	VST0195	SWITCH	1	K0E132A00003
		MISCELLANEOUS		
	VMP6783	C.B.A. HOLDER ANGLE	1	
■ E23	VEP80C20A	REMOTE MAINTENANCE C.B.A.	1 (RTL)	
C70-76	ECUX1E104ZfV	C.CAPACITOR CH 25V 0.1U	7	
IC70	THC4052FT	IC	1	
IC71	MAX3223CAP	IC	1	C0ZBZ0000220
P70	VJS3826A020	CONNECTOR (FEMALE)	1	
P71	VJP3969A009	CONNECTOR (MALE)	1	K1FA109A0005
R70	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R71,72	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R73	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R76,77	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
SW70	VSS0557TB	SWITCH	1	K0N110A00021
■ E24	VEP80B96A	MENU JOG C.B.A.	1 (RTL)	
J1	VJR1094	TERMINAL	1	
P1	VJP3125B007	CONNECTOR (MALE)	1	
SW1	EVQQS205K	SWITCH	1	
SW2	EVQWK4001	JOG ENCODER SW	1	
■ E25	VEP80B97A	POWER SW C.B.A.	1 (RTL)	
SW16	VST0299	TOGGLE SWITCH	1	K0E112G00001

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E26	VEP80C08A	BREAKER C.B.A.	1	(RTL)
L200	VLP0320	COIL	1	
L201,02	VLF1151A132	COIL	2	
P200	VJP2824A002	CONNECTOR (MALE)	1	K1KA02A00009
P201	VJP2824A004	CONNECTOR (MALE)	1	K1KA04A00005
A SW200	VSQ0834	CIRCUIT PROTECTOR	1	K5JDHB000002
		MISCELLANEOUS		
	VEE0N06	BREAKER CABLE	1	
■ E27	VEP00X87D	DC INPUT C.B.A.	1	(RTL)
D1	S3V40	DIODE	1	
		MISCELLANEOUS		
	VJP2717	CONNECTOR (MALE)	1	K1AA104H0021
	VEE0N07	DC INPUT CABLE	1	
■ E28	VEP000U0A	HEAD PHONE C.B.A.	1	(RTL)
C700,01	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	F1H1H102A009
J700	VJJ0522	JACK	1	K2HC103B0082
L700,01	VLP0352	FERRITE CORE	2	
■ E29	VEP80C12A	FRONT MIC C.B.A.	1	(RTL)
J600	VJS3417	CONNECTOR (FEMALE)	1	K1AB103A0007
P600	VEE-K41-P600	CONNECTOR	1	
R600-03	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	4	
■ E30	VEP80A74B	BACK TALLY C.B.A.	1	(RTL)
D1	TLRA116	DIODE	1	
		MISCELLANEOUS		
	VEE9418	CABLE	1	
	VMX2126	LED SPACER	1	

SECTION 1

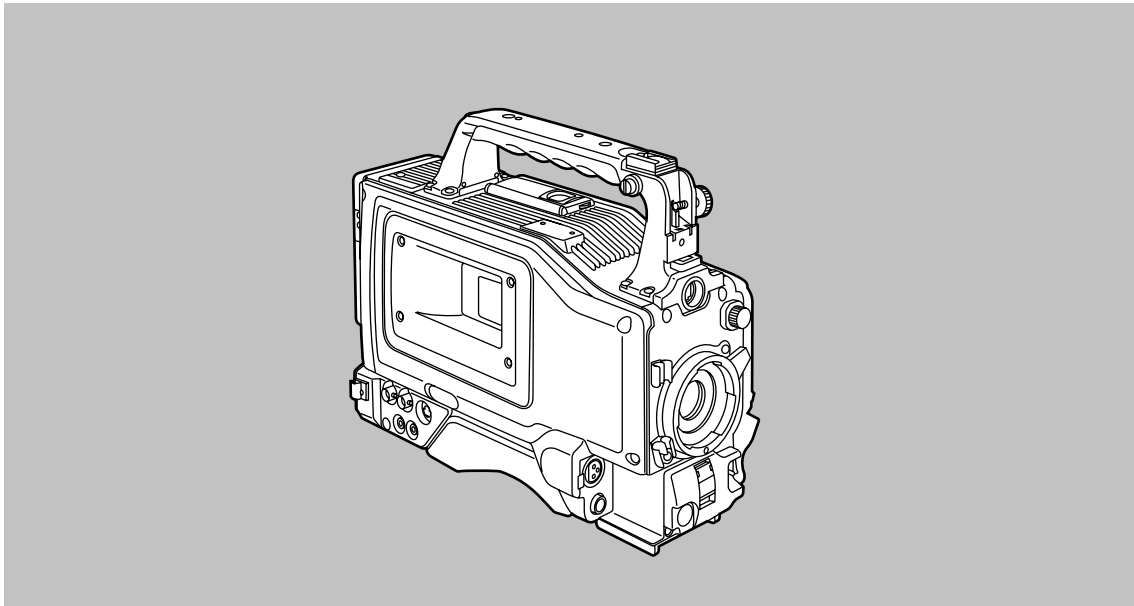
OPERATING INSTRUCTIONS

Operating Instructions

DV NTSC

Digital Video Camera Recorder



AG-DVC200P





Panasonic®

Before attempting to connect, operate or adjust this product, please read these instructions completely.

* This camera recorder is designed to be used exclusively with the standard size of DV tapes. Do not use DVCPRO tapes or other sizes of tapes.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER TO SERVICING TO QUALIFIED SERVICE PERSONNEL.		

 The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the appliance.

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER CHANGE OF SWITCH SETTING INSIDE THE UNIT TO QUALIFIED SERVICE PERSONNEL.

FCC Note:

This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.


This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Replace battery with part No. CR2032 only.
Use of another battery may present a risk of fire or explosion.
Caution—Battery may explode if mistreated.
Do not recharge, disassemble or dispose of in fire.



ATTENTION:

The product you have purchased is powered by a nickel cadmium battery which is recyclable. At the end of its useful life, under various state and local laws, it is illegal to dispose of this battery into your municipal waste stream.
Please call 1-800-8-BATTERY for information on how to recycle this battery.

 indicates safety information.

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Introduction

This is the first DV format integrated camera VTR that supports standard cassettes. It combines the digital camera technology fostered by broadcast equipment with the dependability of the DVCPRO mechanism. It has a compact size, light weight and low-

power consumption, and it is capable of recording for many hours. Both its camera unit and VTR unit incorporate digital signal processing to achieve even greater improvements in picture quality and stability.

Features

Features of camera unit

● 1/2 type IT 3-CCD configuration

The camera's high resolution of about 800 lines and its minimum subject brightness of 0.5 lux make easy work of shooting under low lighting conditions, and they achieve bright camera images with a high sensitivity.

● Digital processing incorporated

Full-blown digital processing circuitry fostered by broadcasting applications is featured to ensure a high performance, sophisticated functions and a high level of dependability.

● Replacement lens system

The bayonet system is employed to enable 1/2 lenses made by Fujinon or Canon to be mounted for use.

● CC/ND filter with a 4-leaf configuration adopted as a standard accessory

This configuration enables the optimum filter for the subject brightness and color temperature to be selected.

● Shooting support functions

Scene file dial

This makes it easy to select six scene file settings to suit the prevailing shooting conditions.

ATW (auto tracking white) function

The auto tracking white function comes in handy when shooting successive scenes with different light sources.

Quick focus function

This automatically controls the iris and shutter to provide support for ensuring easy focusing.

Full auto function

This is useful for emergency shooting when, for instance, there is not enough time to perform the camera settings.

Auto iris mode selection function

This enables three auto iris settings to be selected. The settings can easily be switched to match the shooting conditions.

Menu jog dial system

A jog dial button enabling easy menu settings is provided on the front panel of the camera.

Features of VTR unit

● DV format

The VTR unit compresses the images using a component digital recording system that incorporates the latest compression technology. For recording the sound, the unit uses non-compression PCM recording which achieves an excellent signal-to-noise ratio, frequency band, waveform characteristics and reproducibility of the finely detailed parts. Both picture quality and sound quality are taken to new heights by this format.

● Standard tape drive

The DVCPRO mechanism with its proven track recorded in broadcasting applications has been put to use to ensure the same high level of dependability while at the same time enabling long recordings lasting up to a maximum of 270 minutes.

● High system capabilities

The unit comes with DV connectors as a standard accessory. These enable hookup with other DV components and DV non-linear devices.

The battery packs made by Anton Bauer and battery systems made by other companies are all supported.

● Other features

Frame-to-frame continuity

Simply by pressing the VTR START button or VTR button on the lens, the continuity from one frame to the next is assured with a precision of 0 to +1 frame or less.

Rec review function

This automatically rewinds the tape for the last 2 to 10 seconds recorded and plays back the recording. This enables what was recorded to be monitored without delay.

Built-in time code generator/reader

This enables the time code information to be recorded on the dedicated sub-code track and played back.

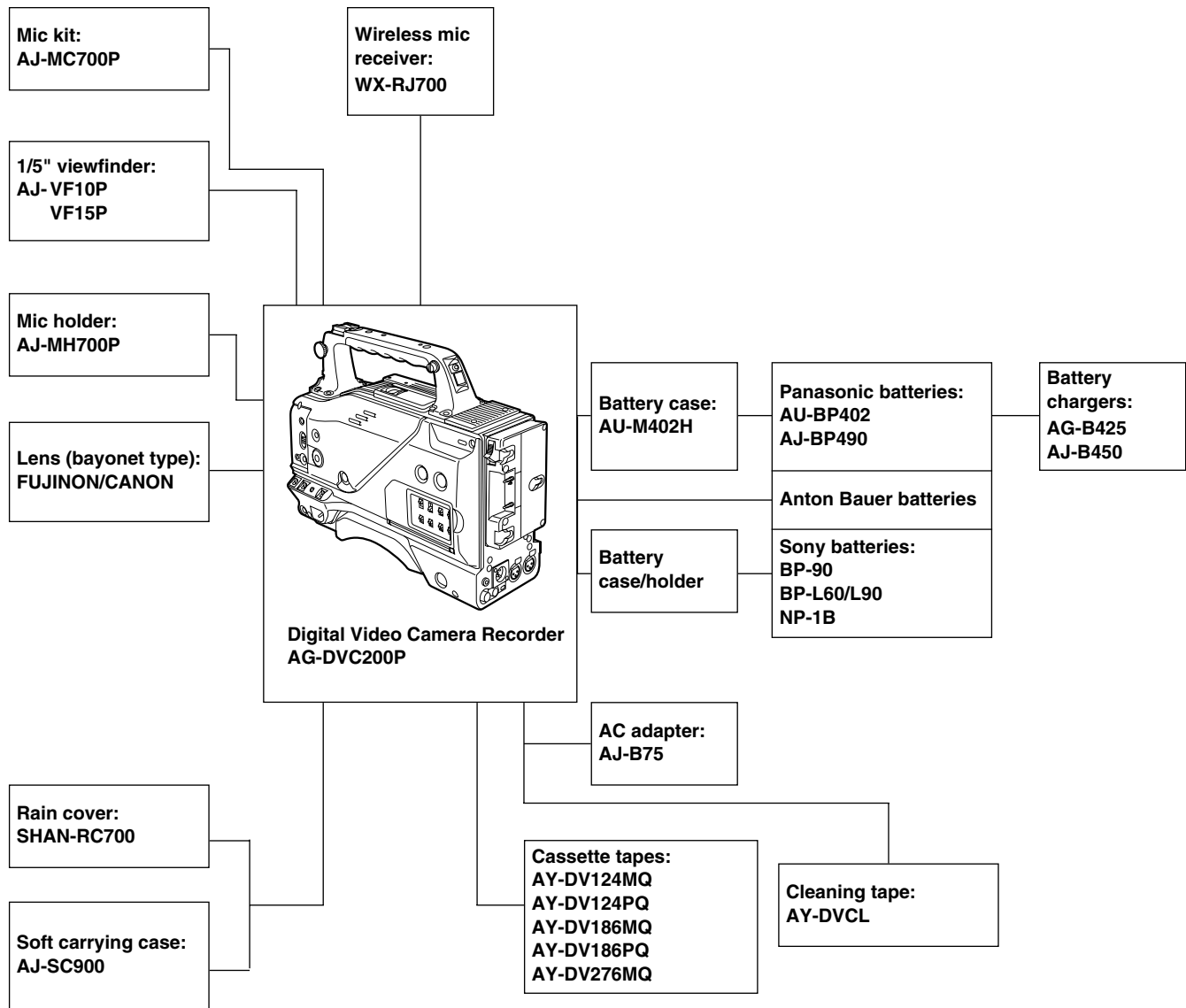
Time stamp function

This superimposes the date and time onto the camera's images and records them.

Interval rec function

This function enables simply interval shooting. It is particularly effective for shooting programs on nature or art.

System configuration



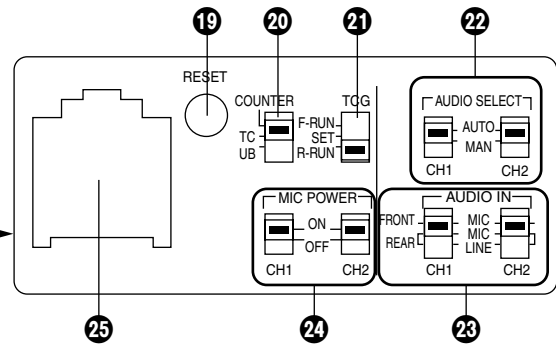
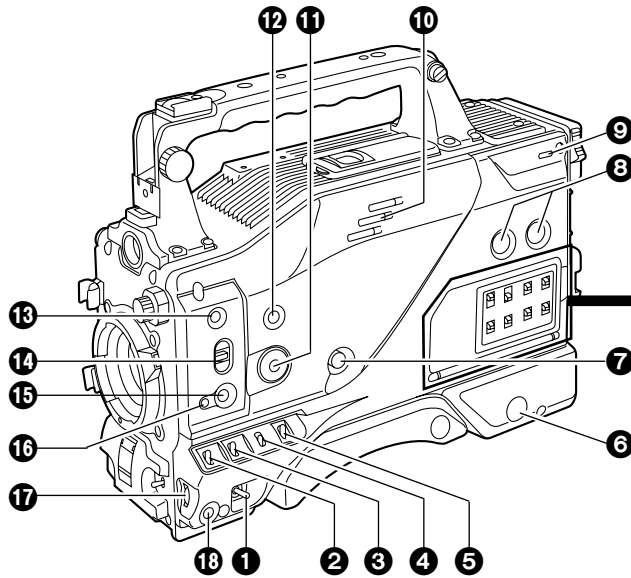
<Note> Checking the lens shading compensation

This unit comes with a function which provides shading compensation for the lens. Check that the compensation is optimum for the type of lens used. For further details, refer to "Lens adjustments and checks" (page 15).

Lens shading compensation data selection

Lens classification	A	B	C	USER
Lens type	S18 x 6.7BERM4 S18 x 6.7BRM4 S19 x 6.5BERM4 S19 x 6.5B YH18 x 6.7IRS YH12 x 4.8IRS	YH18 x 6.7KRS YH14 x 7.3KRS YH12 x 4.8KRS S14 x 7.5BRM4 S17 x 6.6BRM4	S14 x 7.3BRM (For AG-DVC200D)	Lens other than A, B or C

Parts and their functions



① POWER switch

This switch turns the power ON and OFF.

② VTR STBY/SAVE (tape protection) switch

This switches the power supply mode when the VTR is set to the rec pause mode in which recording is temporarily suspended.

STBY: In this mode, recording starts immediately by pressing the VTR START button.

SAVE: This is the tape protection mode. The tape drum is stopped in the half-loading status. Less power is consumed at this position than at the STBY position so that the battery will supply power to the unit for a longer period of time.

Compared with the STBY position, more time is taken to start recording after the VTR START button is pressed. When the switch is set to the SAVE position, the VTR SAVE lamp inside the viewfinder lights up.

<Note>

When the PAUSE TIMER time (initial setting: 10 minutes) has elapsed in the STBY mode, the unit is automatically set to the SAVE mode. For further details, refer to the table for <VTR OPTION> in the section on the sub-menu screens (page 34).

③ GAIN selector switch

When the camera screen is dark, turn this switch to a position which will increase the gain and brighten the screen.

The gain for each item can be selected on-screen. For further details, refer to the table for <SW MODE> in the section on the setting menu screens (page 33).

L: The switch is normally set to this position. The gain at this position was set to 0 dB at the factory prior to shipment.

M: The gain of the camera's video amplifier is increased. The gain at this position was set to 9 dB at the factory prior to shipment.

H: The gain of the camera's video amplifier is increased even more. The gain at this position was set to 18 dB at the factory prior to shipment.

④ OUTPUT/AUTO KNEE selector switch

This switch selects the video signals which are to be output from the camera unit to the VTR unit, viewfinder and/or video monitor.

CAM, AUTO KNEE ON:

The images shot by the camera are output. The AUTO KNEE circuit operates.

CAM, AUTO KNEE OFF:

The images shot by the camera are output. The MANUAL KNEE circuit operates.

BARS:

Color bar signals are output. The AUTO KNEE circuit does not operate.

AUTO KNEE function

When shooting with the level set to people or scenes against a high-brightness background, the background will be whitened out, and the buildings and scene in the background will be blurred. If the AUTO KNEE function is activated at times like this, the background will be reproduced clearly. This function is effective for shooting in the following situations:

- When shooting people in the shade under a clear sky
- When simultaneously shooting people in a car or indoors and the outside scenery through a window
- When shooting scenes with a strong contrast

⑤ WHITE BAL (white balance memory selector) switch

A or B: When the AUTO W/B (white/black) BAL switch on the front panel is operated to adjust the automatic white balance, the adjusted value is automatically stored in A or B.

PRST: The color temperature is set to 3200K in the preset mode. The AUTO W/B BAL switch does not work at this position.

<Reference>

The automatic tracking white balance mode (ATW) can be set to A, B or PRST. For further details, refer to the table for <SW MODE> in the section on the sub-menu screens (page 33).

Parts and their functions

⑥ BREAKER switch

If an excessively high current flows inside the unit due to some trouble or other, the circuit breaker is tripped and the power is automatically turned off to protect the unit.
Push this button in after conducting an inspection or repairs inside the unit. If there is no trouble, the power will come back on.

⑦ MONITOR (volume) control

This is used to adjust the volume of the monitor speaker or earphone.

⑧ AUDIO LEVEL CH1, CH2 (audio channel 1, 2 recording level) controls

These are used to adjust the CH1 and CH2 recording levels while monitoring the level meter inside the viewfinder.

⑨ POWER/WARNING lamp

This lamp lights up green when the power is turned on, and it flashes in green during interval recording. When a warning is given, it lights up red or flashes in red to alert the user to trouble. For further details, refer to "Warning system" (page 38).

⑩ SPEAKER

The sound can be monitored through this speaker.
When an earphone is connected to the PHONE jack, the sound of the speaker will be automatically cut off.
What can be monitored is the mixed sound of CH1 and CH2.

⑪ SCENE FILE dial

This enables the camera settings that match the shooting conditions to be selected. For further details, refer to "How to use scene files" (page 24).

⑫ MODE CHECK button

This enables the setting modes of the camera's control switches to be checked in the viewfinder.

⑬ QUICK FOCUS button

This supports the focusing of the subject. When it is pressed, the lens iris is opened for about 10 seconds. It makes the depth of field shallower and facilitates focusing.

⑭ AUTO IRIS MODE selector switch

This is used to select the position that matches the shooting conditions when shooting by automatically adjusting the lens iris.

BACK.L: When making a back-lit subject brighter for shooting

STD: For normal shooting

SPOT.L: For shooting a spot-lit subject

⑮ FULL AUTO button

This is pressed when there is no time to check the camera unit's settings. The lens iris and white balance will be automatically adjusted.

⑯ FULL AUTO lamp

This lights up when FULL AUTO shooting has been performed.

⑰ JOG dial button

This is used to select the menu items and perform settings when the MENU button ⑱ is at the ON position. When the synchro scanning mode has been selected for the shutter speed, the shutter speed can be easily adjusted more finely.

⑱ MENU button

This is used to switch the menu ON and OFF.

⑲ RESET button

This is used to reset the numerical value of the counter or time code.

<Note>

This value is reset immediately when the COUNTER has been selected. When TC or UB has been selected, the reset button works only when the TCG selector switch is at the SET position.

⑳ COUNTER selector switch

This is used to switch the counter display.

COUNTER: A relative numerical value is displayed by the counter. However, when the tape recording includes discontinuous parts, the counter reading may also lack continuity.

TC: The time code is displayed.

UB: The user's bit is displayed.

㉑ TCG selector switch

This sets the time code operation mode to FREE RUN, REC RUN or SET. For further details, refer to "Setting the time data" (page 22).

㉒ AUDIO SELECT CH1, CH2 (audio channel 1, 2 auto/manual level adjustment selector) switches

These are used to select the method used to adjust the audio levels of audio channels 1 and 2.

AUTO: The audio level is adjusted automatically.

MAN: The audio level is adjusted manually.

㉓ AUDIO IN (audio input selector) switches

These are used to select the input signals to be recorded on CH1 and CH2.

FRONT : The input signals from the microphone connected to the MIC IN connector are recorded.

REAR : The input signals from the microphone connected to the AUDIO IN CH1/CH2 connector are recorded.

REAR (LINE) : The input signals from the line connected to the AUDIO IN CH1/CH2 connector are recorded.

㉔ Mic power switches

These are used to turn ON and OFF the phantom power (+48V) for each rear jack channel.

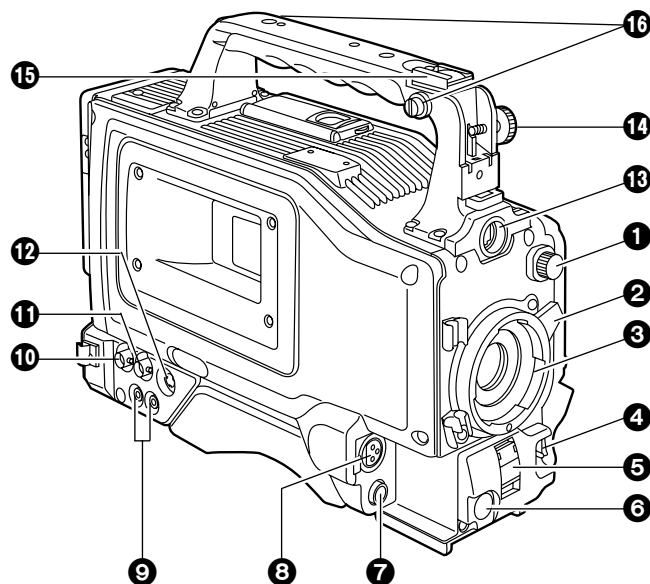
<Note>

ON or OFF can be set for supplying the phantom power of the front microphone using "FRONT MIC POWER" on the <MIC/AUDIO> sub-menu screen.

㉕ Backup battery compartment

For further details on replacing the backup battery, refer to "Replacing the backup battery" (page 40).

Parts and their functions



① CC/ND filter selector knob

This is used to select the filter to match the subject brightness.

- 1 : 3200K
- 2 : 5600K+1/8ND
- 3 : 5600K
- 4 : 5600K+1/64ND

② Lens lever

This lever is tightened to secure the lens after the lens has been attached to the lens mount.

③ Lens mount (bayonet type)

The lens is attached to this mount.

④ AUTO W/B (white/black) BAL switch

AWB: The white balance is automatically adjusted. When the AWB memory selector switch on the side panel is set to A or B and then the AUTO W/B BAL switch is operated, the adjustment value is recorded in the memory. Bear in mind that the switch does not work when it is set to the ATW or PRST position.

ABB: The black balance is automatically adjusted.

⑤ SHUTTER switch

This is the ON/OFF selector switch of the electronic shutter.

OFF : The electronic shutter does not operate.

ON : The electronic shutter operates.

SEL : This is used when the electronic shutter speed is to be changed. The switch is a non-locking type. The shutter speed changes each time it is operated. For further details, refer to "Electronic shutter settings" (page 25).

⑥ VTR START/STOP button

This starts or stops the video recording.

⑦ LENS jack (12-pin)

The connecting cord of the lens is connected to this jack. For further details on the lenses that can be used, refer to the operating instructions of the lenses concerned.

⑧ MIC IN (mic input) jack (XLR, 3-pin)

The accessory microphone is connected to this jack. The power for the microphone is supplied from this jack.

⑨ AUDIO OUT jacks (pin jacks)

An audio component is connected to these jacks. The sound for channel 1 and channel 2 is output separately.

⑩ GENLOCK IN connector (BNC)

Supply the sync signal (black burst signal) to this connector when gen-locking the camera pictures (CAM OUT jack) of the unit.

⑪ CAM OUT jack

This is the dedicated output jack for the camera's pictures.

⑫ S-VIDEO OUT jack (Y/C jack)

When pictures are to be recorded with a backup VTR connected to the S-VIDEO OUT jack, bear in mind that the unit's playback pictures will be recorded onto the backup VTR if any operation (such as REC CHECK) that performs VTR playback is executed.

⑬ Viewfinder connector

The viewfinder plug is connected to this connector.

⑭ Viewfinder stopper screw

This screw is used to secure the viewfinder.

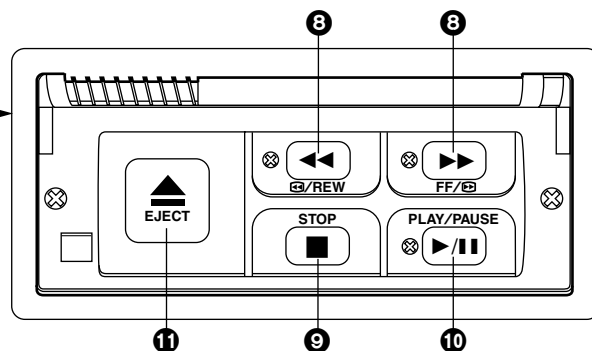
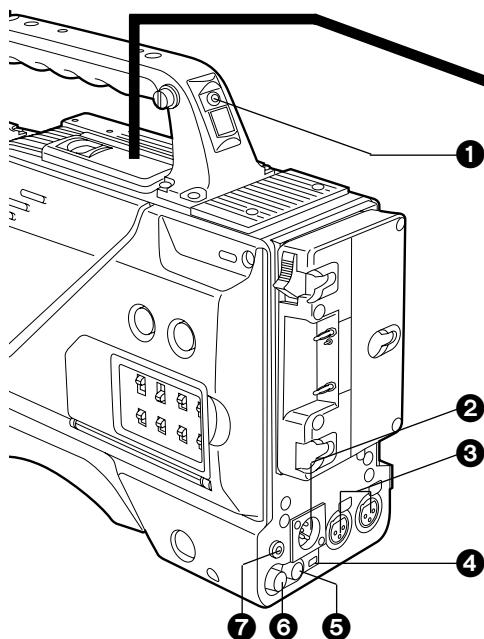
⑮ Light shoe

The video light or other such device is attached here.

⑯ Shoulder belt fittings

The shoulder belt (optional accessory) is attached here.

Parts and their functions



① TALLY lamp

This lights up when the unit is set to the recording mode. It flashes when it is being transferred to the recording mode.

② External DC input socket

This is the input socket of the external power supply (DC power supply). When an AC adapter is connected here, power is automatically supplied from the external source.

③ AUDIO IN CH1, CH2 (audio input channel 1, 2) jacks (XLR, 3-pin)

An external microphone or line input signals are connected to these jacks.

④ DV I/F connector (complying with IEEE 1394 standard)

A digital video component or computer equipped with a DV connector is connected to this connector using a DV cable (optional accessory). For further details, refer to "Using the unit with external components" (page 29).

⑤ DC OUT (DC power supply) output socket

This normally serves as the DC 12V output socket. A current of approximately 1A can be taken out.

When the HDD adapter scheduled to be developed in the future is connected here, it will be possible to supply a 7V voltage.

⑥ VIDEO OUT jack (BNC)

This is the composite video jack for a monitor.

<Note>

When pictures are to be recorded with a backup VTR connected to the VIDEO OUT jack, bear in mind that the unit's playback pictures will be recorded onto the backup VTR if any operation (such as REC CHECK) that performs VTR playback is executed. Use the exclusive camera output jack for backup recording.

⑦ PHONES (earphones) jack (mini jack)

The earphones (stereo) for monitoring sound are plugged in here. When the earphones are connected, no sound will be output from the speaker.

⑧ REW (rewind)/FF (fast forward) buttons/lamps

- When one of these buttons is pressed in the stop mode, the high-speed playback (rewind or fast forward) mode is established, and the corresponding lamp lights.

- When one of these buttons is pressed in the playback mode, the 4X speed playback (rewind or fast forward) mode is established, and when the same button is pressed again, the 8X speed playback (rewind or fast forward) mode is established.

Each time the button is then pressed, the mode is switched between 4X speed playback and 8X speed playback.

- When one of these buttons is pressed in the STILL or REC PAUSE mode, the 1× speed playback (rewind or fast forward) is established while the button is held down. When the button is released, the unit returns to the previous mode (STILL or REC PAUSE).

The variable speed playback mode is released by pressing the STOP button, PLAY/PAUSE button or EJECT button.

⑨ STOP (stop) button

The tape stops traveling when this button is pressed. However, the button cannot be operated during recording. To stop recording, first set the unit to the REC/PAUSE mode, and then press the STOP button.

⑩ PLAY (playback)/PAUSE button/lamp

Playback commences when this button is pressed, and the lamp lights. When it is pressed again, the STILL (stop) mode is established, and the lamp flashes.

When it is pressed once more, the playback mode is restored.

⑪ EJECT (eject) button

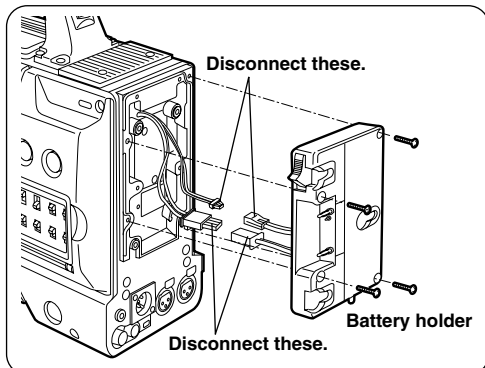
When this button is pressed, the cassette holder rises, and the cassette tape can be inserted or removed. This button cannot be operated while the unit is recording, in which case first set the unit to the REC/PAUSE mode, and then press the EJECT button.

Preparations

Using the AU-BP402 or AJ-BP490 battery pack made by Panasonic

Recharge the battery pack using the battery charger specifically designed for each individual battery pack. For the charging time and other details, refer to the operating instructions of the battery charger used.

1 Remove the battery holder.



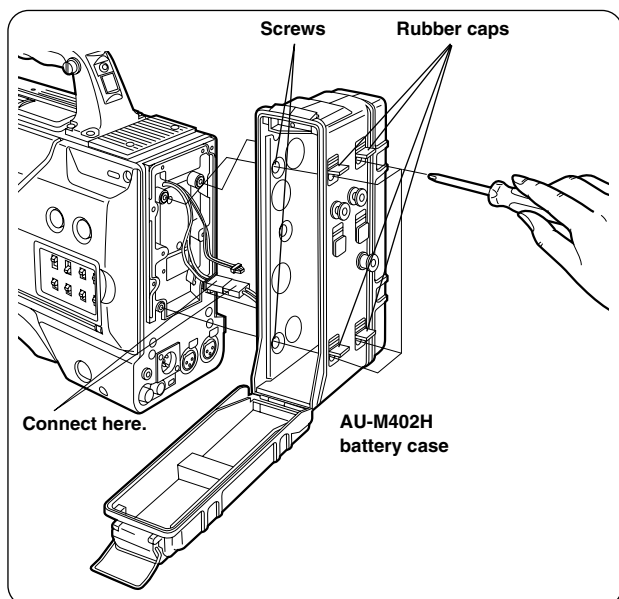
2 Install the battery case into the unit.

- ① Connect the unit's cable with the cable of the AU-M402H battery case.
- ② Use a screwdriver to install the AU-M402H battery case in the unit.

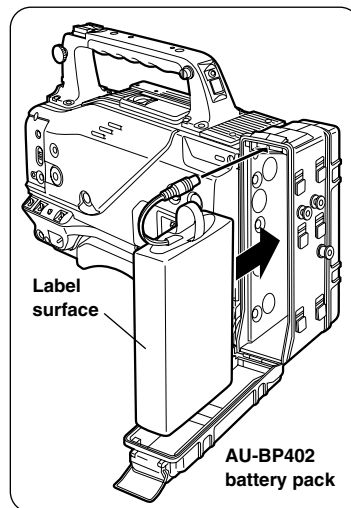
The holes for tightening the screws can be seen when the cover is opened and the rubber caps are raised. Use a screwdriver to tighten the screws, and install the battery case into the unit. Ensure that the screws are tightened up as far as they will go.

<Note>

- Do not pull the rubber caps with great force.
- Be careful not to catch up the cables when installing the battery case.



3 Connect the plug of the battery pack to the connector inside the battery case, and insert the battery pack into the case.



<Note>

The power must be turned off without fail before connecting or disconnecting the plugs.

4 Set the battery type.

Select the battery type using <BATTERY> on the sub-menu screen.

Select "TYPE A" if the AJ-BP490 is to be used; select "NiCd12" if the AU-BP402 is to be used. (See page 34)

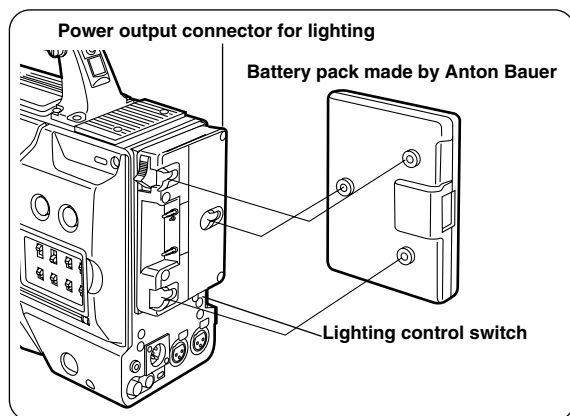
Preparations

Using a battery pack made by Anton Bauer

Before use, charge the battery pack using the exclusive battery charger made by Anton Bauer.

For the charging time and other details, refer to the operating instructions of the battery charger used.

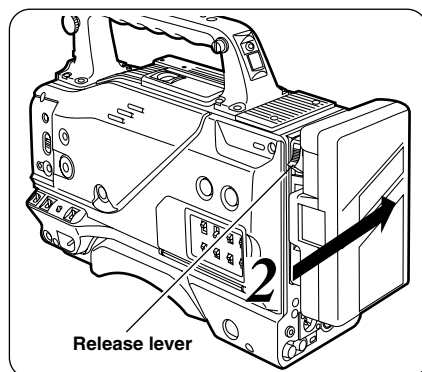
1 Attach the battery pack made by Anton Bauer.



<Reference>

A battery holder made by Anton Bauer is equipped with a power output connector for the lighting and a lighting control switch to enable a light to be easily attached. For details on the lighting systems available, contact Anton Bauer.

2 Insert the battery pack and slide it in the direction of the arrow.



<Reference>

To remove the battery pack, slide it in the opposite direction to the one in which it was attached while keeping the release lever on the battery holder pulled down all the way.

3 Set the battery type.

Select the battery type using <BATTERY> on the sub-menu screen.

Example: Select "NiCd13" if the TRIMPAC13 is to be used; select "NiCd14" if the TRIMPAC14 is to be used. (See page 34)

Using the NP-1B battery pack made by Sony

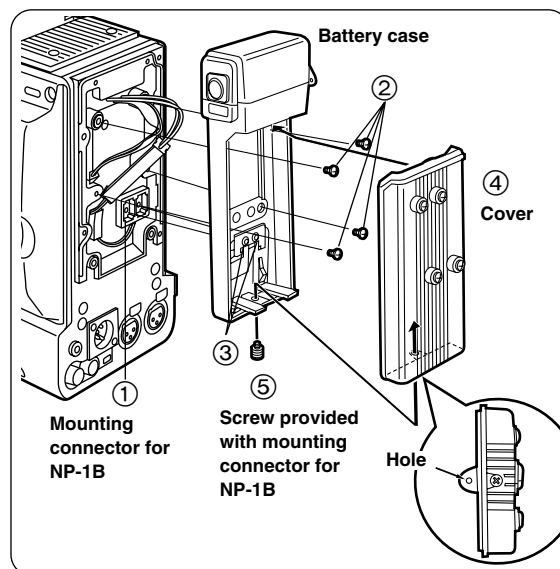
Before use, charge the battery pack using the exclusive battery charger made by Sony.

For the charging time and other details, refer to the operating instructions of the battery charger used.

1 Remove the battery holder.

Refer to step 1 on page 14.

2 Attach the battery made by Sony to the unit.



First, remove the battery holder cover.

- ① Attach the mounting connector for the NP-1B.
- ② Use the mounting screws to mount the battery case.
- ③ Tighten the screw for the power supply contact.
- ④ Insert the top of the cover in the direction of the arrow.
- ⑤ Align the hole in the bottom of the cover (metal part) with the hole in the bottom of the battery case, and attach using the screw provided with mounting connector for NP-1B.

3 Set the battery type.

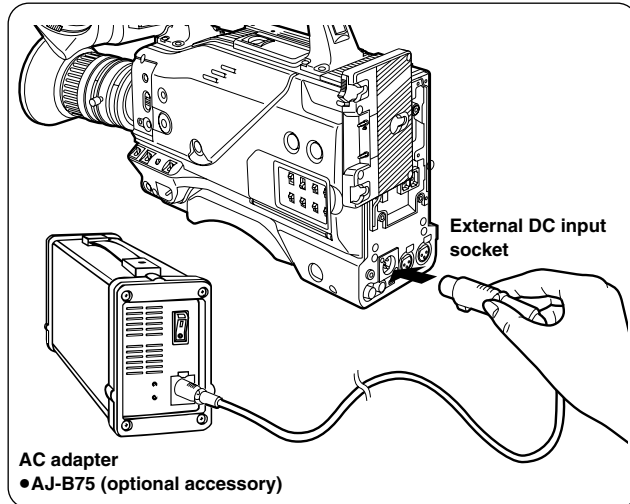
Select the battery type using <BATTERY> on the sub-menu screen.

Select "NiCd12" if the NP-1B is to be used. (See page 34)

Preparations

Using an AC power supply (with the AJ-B75 AC adapter)

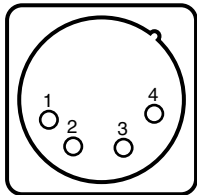
- 1 Connect the unit's external DC input socket with the DC OUT socket on the AJ-B75 AC adapter.



- 2 Turn on the AC adapter's power.

- 3 Set the unit's POWER switch to ON.

When an AC adapter other than the AJ-B75 is to be used, check the pin signals of the external DC input socket.



External DC input socket

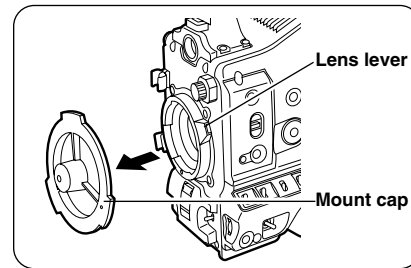
Pin No	Signal
1	GND
2, 3	—
4	+12V

<Notes>

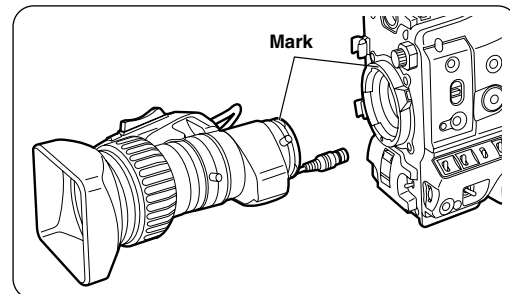
- When both a battery pack and an AC adapter have been connected, the power supplied from the AC adapter takes priority. It is also possible to attach/remove a battery while the AC adapter is being used.
- When an AC adapter is to be used, the unit's POWER switch must be set to ON only after the AC adapter's power has been turned on. If the power is switched on in the reverse sequence, the AC adapter's output voltage will rise slowly, possibly causing the unit to malfunction.

Attaching the lens

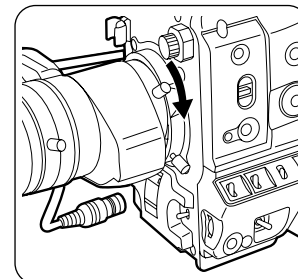
- 1 Raise the lens lever, and remove the mount cap.



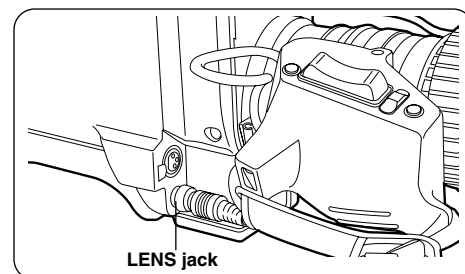
- 2 Fit the center mark on the lens into the center cutout on the top of the lens mount, and attach the lens.



- 3 Pull down the lens lever to secure the lens.



- 4 Push the cable into the cable clamp, and connect it to the LENS jack.



- 5 Proceed with the flange back adjustment for the lens.

<Notes>

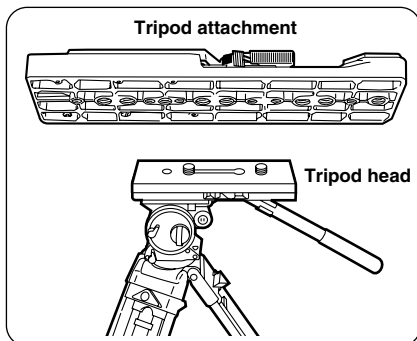
- For details on how to handle the lens, refer to the operating instructions of the lens.
- While the lens is removed, attach the mount cap to protect the unit.

Preparations

Mounting the unit on a tripod

Use the tripod attachment to mount the unit on a tripod.

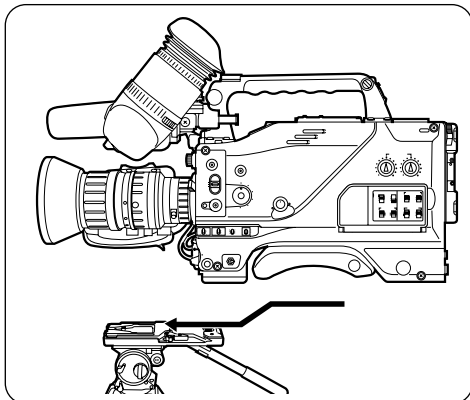
1 Mount the tripod attachment on the tripod.



<Note>

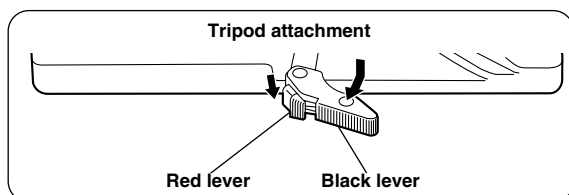
Take account of the center of gravity of the unit and that of the tripod attachment when selecting the attachment hole. Check that the diameter of the hole selected matches the diameter of the tripod head screw.

2 Mount the unit on the tripod attachment.



Slide the unit along the groove toward the front until it clicks into place.

Detaching the unit from the tripod attachment



While pushing down the red lever, move the black lever in the direction of the arrow and slide the unit toward the back to remove it.

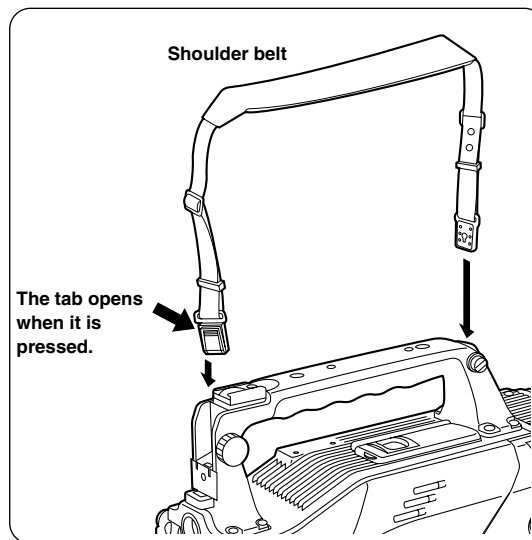
<Note>

If the pin of the tripod attachment fails to return to its original position after the unit has been detached, again move the black lever in the direction of the arrow while pushing down the red lever, and return the pin to its original position. Bear in mind that the unit cannot be attached if the pin remains in the center.

Attaching the viewfinder and microphone

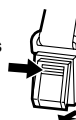
For details on the attachment and adjustments of the viewfinder and microphone, refer to the operating instructions of the viewfinder.

Attaching the shoulder belt (optional accessory)



To disengage the shoulder belt, open the tabs of the attachment parts, and disengage.

The tab opens when it is pressed.



<Note>

Check that the shoulder belt is attached securely.

Preparations

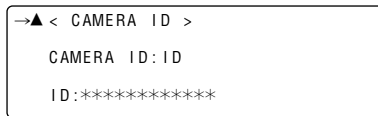
Setting the camera ID

The camera ID is set on the <CAMERA ID> screen. Up to 12 alphanumeric, symbols and spaces can be used.

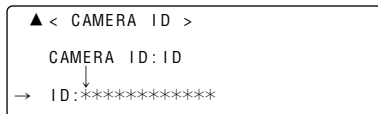
<Note>

The camera ID does not appear while the setting menu is displayed even when color bar signals are output.

- 1 Proceed with the sub-menu operation (page 30), and open the <CAMERA ID> screen.



- 2 Turn the JOG dial button to move the arrow (cursor) to the ID item.



- 3 When the JOG dial button is pressed, the arrow (cursor) flashes to signal that the input mode has been established.

- 4 Keep turning the JOG dial button until the character to be set appears.

When the button is turned, the character display is switched in the following sequence:

Space: ☐



Letters of the alphabet: A through Z



Numbers: 0 through 9



Symbols: ', >, <, /, -

- 5 Press the JOG dial button to enter the character.

- 6 Turn the JOG dial button to move the arrow (cursor) to the next position (on the right), and repeat steps 3, 4 and 5 to enter the remaining characters.

- 7 Press the MENU button to end the menu operation.

The setting menu is cleared, and the unit's current status is displayed.

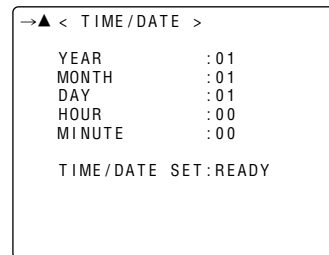
To change the ↓ back to →, press the JOG dial button when the ↓ is above the colon (:).

<Note>

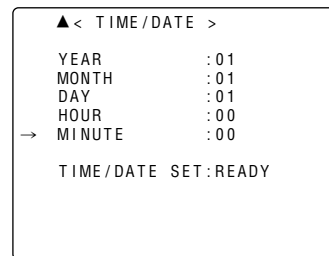
The camera ID input above will be recorded at the same time as the color bar signals.

Setting the date and time

- 1 Proceed with the sub-menu operation (page 34) to open the <TIME/DATE> screen.



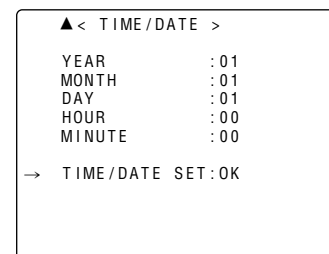
- 2 Turn the JOG dial button to select the item to be changed, and press the JOG dial button.



- 3 Turn the JOG dial button to change the setting, and then press the button to enter it.

- 4 When the setting is completed, turn the JOG dial button to select TIME/DATE SET, and press the button.

The READY display changes from ACTIVE to OK, and the clock function starts operating.



- 5 Press the MENU button to end the menu operation.

The setting menu is cleared, and the unit's current status is displayed.

<Note>

The seconds cannot be set. The time always starts from zero seconds.

Lens adjustments and checks

Flange back adjustment

The flange back (distance from the lens mounting surface to the image formation surface) is adjusted when a subject cannot be brought into focus precisely using either the telephoto or the wide angle positions when performing zoom operations.

Once the flange back has been adjusted, it need not be re-adjusted unless the lens is replaced. For details on the adjustment method and lens positions, refer to the operating instructions of the lens concerned.

White shading check

This unit enables the fixed data supporting three types of lens and the data supporting any desired adjustments to be used for white shading compensation. This data can be selected using LENS SHADING on the sub-menu (see page 35).

First, check that the type of lens used and the settings match. The fixed data settings are as follows:

Type A: Data for S18 x 6.7BERM4 (etc.) lenses.

Type B: Data for YH18 x 6.7KRS (etc.) lenses.

Type C: Data for S14 x 7.3BRM lens.

If the lens to be used does not correspond to any of these types, proceed to adjust the white shading described below by performing menu operations.

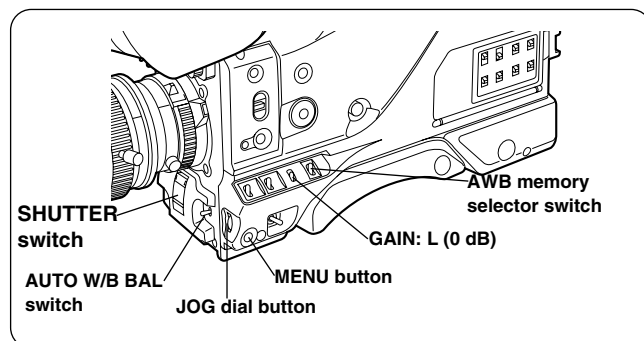
White shading adjustment

<Note>

Coloring may occur in the vertical direction near the open setting of the lens iris even when the white shading has been adjusted. This phenomenon is a characteristic inherent to lenses and optical systems, and it is not indicative of a failure.

1 Proceed with the camera settings for the adjustment.

- ① Mount the lens on the camera.
Do not forget to attach the lens cable.
- ② Set the electronic shutter to OFF and the gain to L (0 dB)
- ③ If the lens comes with an extender, disengage the extender function.
- ④ Proceed with the menu operation (page 30) to open the sub-menu <LENS SHADING> screen, and set "LENS SELECT" to USER.



2 Proceed with the image settings.

- ① Shoot a piece of paper with no color unevenness.
- ② Set the lens iris to manual, and adjust it so that a zebra pattern fills the whole screen. Check that the lens iris is between f/4 and f/11.

<Notes>

- Flicker tends to occur under fluorescent lights, mercury lamps and other such lighting conditions. Use sunlight, halogen lamps or a light source which rarely give rises to flicker.
- If there is unevenness in the lighting, the zebra pattern will no longer appear on some parts of the screen. In a case like this, adjust the lighting position, etc.
- Adjust the lighting position, etc. also when the lens iris is not between f/4 and f/11.
- The electronic shutter must be left at the OFF setting.

3 Adjust the white balance and black balance.

- ① Set the WHITE BAL selector switch to A or B, and use the AUTO W/B BAL switch to execute the automatic white balance adjustment (AWB).
- ② Use the AUTO W/B BAL switch to execute the automatic black balance adjustment (ABB).
- ③ Once again, use the AUTO W/B BAL switch to execute the automatic white balance adjustment (AWB).

4 Repeat the operation in step 2-②.

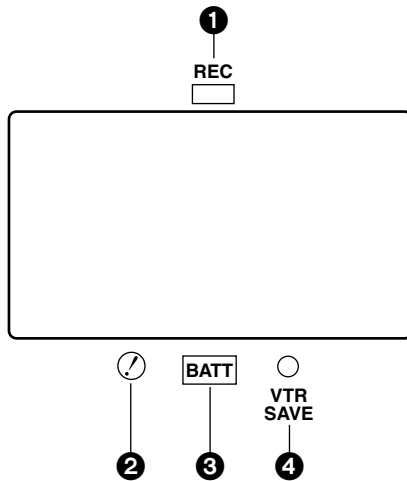
5 Proceed with the white shading adjustment.

- ① Proceed with the menu operation (page 30), and open the sub-menu LENS SHADING screen.
- ② Turn the JOG dial button to align the cursor with LENS SELECT, and press the button. Then turn the JOG dial button further to align the cursor with USER, and press the button to select this item.
- ③ Use the JOG dial button to align the cursor with SHADING (USER), and select this item.
ACTIVE appears on the screen to indicate that the white shading is being automatically adjusted. The adjustment is completed when the ACTIVE display is cleared and OK appears.
- ④ Press the MENU button to close the menu screen.

6 If the lens comes with an extender, engage the extender function, and repeat steps 2 through 5.

Viewfinder displays

Viewfinder lamp displays



The displays shown in the example are those of the AJ-VF10.
(For details on the viewfinder, refer to the operating instructions of the viewfinder available as an optional accessory.)

1 REC (record) lamp

This lights up red during recording. It flashes when an error has occurred. For further details, refer to "Warning system" (page 38).

2 (irregular operation status warning) lamp

This lights up when the unit is placed in an irregular operation status for any of the items set to ON in the sub-menu <!LED>. For details on selecting the items subject to the (irregular operation status warning) lamp display, refer to sub-menu <!LED> (see page 37).

3 BATT (battery) lamp

This starts flashing several minutes before the battery voltage drops to the level where the battery can no longer be used, and it remains lighted when the battery can no longer be used. To prevent an interruption to operation, replace the battery before the battery becomes completely discharged. For further details, refer to "Warning system" (page 38).

4 VTR SAVE (VTR power-saving) lamp

This lights up when the VTR SAVE/STBY switch is set to SAVE. It goes off during recording.

<Note>

After the period set for the pause timer is exceeded during Rec Pause, or after 1 minute has passed during Pause (Still), the unit will automatically switch to SAVE mode and the lamp will light, regardless of the VTR SAVE/STBY switch position.

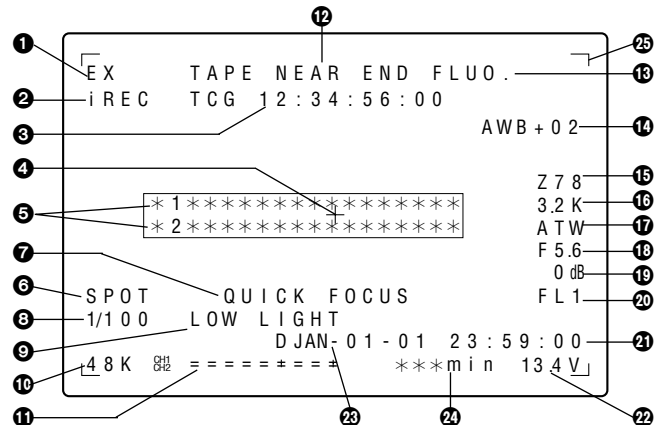
Viewfinder screen status displays

In addition to the images, messages indicating the unit's settings and the operation mode appear on the viewfinder screen.

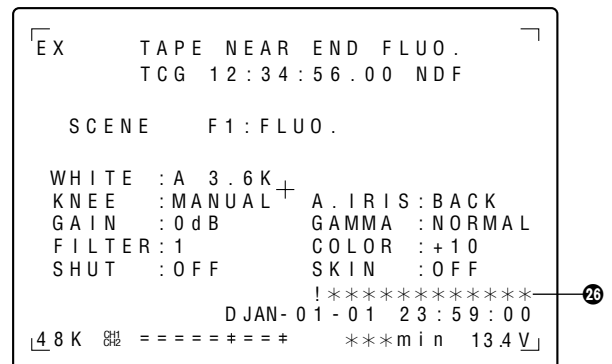
Also displayed are the center marker and safety zone markers.

At the top, bottom and right edges of the screen are the items which have been set to ON using the sub-menu <MARKER/ZEBRA>, <VF DISPLAY 1/2> and <VF DISPLAY 2/2> screens or the switches relating to the viewfinder displays. When a setting has been changed or an adjustment is made, a message informing the user of the setting details, adjustment transition status and adjustment result is displayed for about 3 seconds.

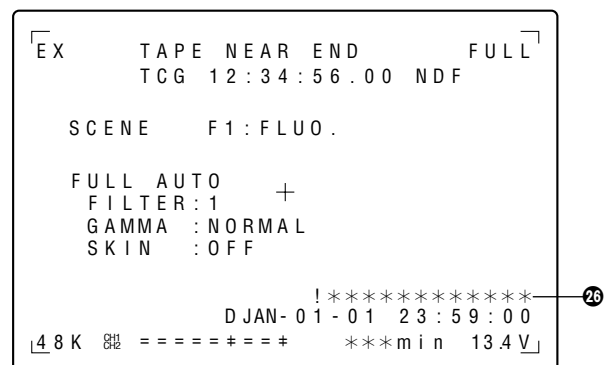
For further details, refer to the items concerned on the sub-menu <MARKER/ZEBRA>, <VF DISPLAY 1/2>, <VF DISPLAY 2/2>, <!LED>, <CAMERA ID> and <TIME DATE> screens.



Status displays on viewfinder screen when MODE CHECK switch is ON (normal)



Status displays on viewfinder screen when MODE CHECK switch is ON (FULL AUTO)



Viewfinder displays

Display item	What is displayed	Status causing the display to appear
① Extender display	EX	Displayed when the lens extender is being used.
② INTERVAL REC status display	iREC	Indicates the interval recording mode. For further details, refer to "INTERVAL REC function" (page 28).
③ Time code display	TCG 12:59:59:29 TCR 12:59:59:29 UBG AB:CD:EF:00 UBR AB:CD:EF:00 CNT 01:59:59	Indicates the TCG (time code generator) value. Indicates the TCR (time code reader) value. Indicates the UBG (user's bit generator) value. Indicates the UBR (user's bit reader) value. Indicates the COUNTER (counter) value.
④ Center marker	+	Displayed when ON is selected as the CENTER MARK (see page 35) setting. It indicates the center of the viewfinder screen.
⑤ 1st line message display (changes in switch settings)	AWB Ach *.K AWB Ach *.K UNDER AWB Ach *.K OVER AWB Bch *.K AWB Bch *.K UNDER AWB Bch *.K OVER AWB PRE *.K AUTO KNEE ON AUTO KNEE OFF GAIN **dB FILTER * SHUTTER OFF SHUTTER 1/**** IRIS MODE **** FULL AUTO ON FULL AUTO OFF SCENE FILE USER SCENE FILE 1 SCENE FILE 2 SCENE FILE 3 SCENE FILE 4 SCENE FILE STD	Displayed when the AWB has been attained for channel A. Displayed when the AWB has been attained for channel A, and the color temperature is lower than the display range. Displayed when the AWB has been attained for channel A, and the color temperature is higher than the display range. Displayed when the AWB has been attained for channel B. Displayed when the AWB has been attained for channel B, and the color temperature is lower than the display range. Displayed when the AWB has been attained for channel B, and the color temperature is higher than the display range. Displayed when AWB has been switched to PRE. Displayed when AUTO KNEE has been changed from OFF to ON. Displayed when AUTO KNEE has been changed from ON to OFF. Displayed when the gain has been switched. Displayed when the filter has been switched. Displayed when the shutter has been set to OFF. Displayed when the shutter has been set to ON. Displayed when the IRIS MODE switch setting has been changed. Displayed when FULL AUTO has been changed from OFF to ON. Displayed when FULL AUTO has been changed from ON to OFF. } Displayed when the scene file dial setting has been switched.
(AWB, ABB operation displays)	AWB ACTIVE AWB OK *.K AWB OK *.K UNDER AWB OK *.K OVER AWB NG AWB PRE ATW MODE ABB ACTIVE ABB OK ABB NG	Displayed while the AWB operation is in progress. Displayed when AWB is completed error-free. Displayed when AWB is completed error-free, and the color temperature is outside the display range (under *.K). Displayed when AWB is completed error-free, and the color temperature is outside the display range (over *.K). Displayed when AWB is completed with an error. Displayed when AWB cannot be performed because AWB is set to PRE. Displayed when ATW (full time auto white balance) is in progress. Displayed while the ABB operation is in progress. Displayed when ABB is completed error-free. Displayed when ABB is completed with an error.
⑤ 2nd line message display (error result message displayed after AWB or ABB has been performed)	color temp LOW color temp HIGH LEVEL OVER LOW LIGHT UNSTABLE CONDITION TIME OVER	Warns that the color temperature is too low during the AWB operation. Warns that the color temperature is too high during the AWB operation. Warns that the brightness is too high during the AWB operation. Warns that the brightness is too low during the AWB operation. Warns that the screen is not stable during the AWB or ABB operation. Warns that the AWB or ABB processing could not be completed within the allotted time.
⑥ IRIS MODE switch status display	SPOT BACK	Displayed when the IRIS MODE switch is at the SPOT.L position. Displayed when the IRIS MODE switch is at the BACK.L position.
⑦ QUICK FOCUS display	QUICK FOCUS	Displayed when QUICK FOCUS is ON.

Viewfinder displays

Display item	What is displayed	Status causing the display to appear
⑧ Shutter speed	1/*.* 1/100 - 1/2000 SUPER V	Displayed when the shutter speed has been set to SYNCHRO SCAN. Displayed when a fixed shutter speed has been set. Displayed when SUPER V (high vertical resolution mode) has been set.
⑨ LOW LIGHT warning display	LOW LIGHT	Displayed when the brightness has been reduced.
⑩ AUDIO sampling frequency display	48k 32k	Indicates that a frequency of 48 kHz has been selected. Indicates that a frequency of 32 kHz has been selected. <Note> With a 1394 input, the input status is displayed.
⑪ Audio level meter display	- - - - - + - - + - - - - - + - - +	Indicates the audio levels of CH1 and CH2 (see page 27).
⑫ VTR warning display/voltage warning display	REC WARNING SLACK E-*** HUMID SERVO RF TAPE NEAR END TAPE END BATT NEAR END BATT END MP TAPE BACKUP BATT EMPTY	Indicates the occurrence of an error during recording. Indicates the occurrence of an error caused by the mechanism. Depending on the type of error, the power may be cut off automatically. (*1) Indicates that condensation has formed. Servo lock is not engaged during recording or playback. The signal level from the tape has dropped. The tape is nearing its end (there are about 2 minutes left). The tape has stopped at the tape end. The battery is nearly flat. The tape has stopped because the battery is flat. An MP tape has been loaded. The tape is automatically ejected. It is time to replace the backup battery.
⑬ FULL AUTO/SCENE FILE display	FULL Filename which has been set	Displayed when the FULL AUTO switch has been set to ON. Indicates the filenames (8 characters) set for the scene files.
⑭ AWB color temperature fine adjustment amount display	AWB+***	The adjustment amount is displayed when ON has been selected as the "COLOR TEMP" setting (see page 32) and the color temperature has been adjusted finely. It is not displayed when OFF is selected or only ATW has been set.
⑮ Zoom display	Z00 - Z99	Indicates the zoom amount. However, most 1/2-inch size lenses have no zoom position return. In such a case, this item is not displayed even if ON has been selected as the display setting.
⑯ AWB color temperature display	*.*K	Indicates the color temperature.
⑰ ATW, AWB channel display	Ach Bch PRE ATW	The WHITE BAL switch has been set to channel A. The WHITE BAL switch has been set to channel B. The WHITE BAL switch has been set to PRE. The full time auto white balance has been set.
⑱ F value display	NC OPEN F2.0 - F16 CLOSE	Displayed when the lens cable has not been connected. Displayed when the lens iris has been opened. Indicates the lens iris value. Displayed when the lens iris has been closed. <Note> This item appears when using a lens equipped with a function that displays the aperture value.
⑲ Gain display	0 - 36dB	Displays the current gain value.
⑳ Filter display	FL1 - FL4 FL-	Displays the filter position. Displayed when filter has not been set to the proper position.

*1: For details on the codes displayed, refer to "Error codes" (page 40).

Viewfinder displays

Display item	What is displayed	Status causing the display to appear
21 Calendar/clock display	01-01-01 00:00:00	The 24-hour system is used for the clock display. (Month-day-year and hours-minutes-seconds displayed)
22 Voltage display	**. *V	The input voltage is displayed.
23 Calendar/clock status switching display	D	"D" is displayed only when a VF DISPLAY setting has been selected. This is to enable the user to differentiate between the screen displays when "TIME+DATE" (see page 35) has been selected as the TIME/DATE setting on <VF DISPLAY 2/2> and when "REC" has been selected as the TIME STAMP setting (see page 34) on <VTR OPTION>.
24 Remaining tape/recording inhibit display	***min END INH	Normally, "***min" is lighted, and it flashes when the tape is nearly at its end. When the tape reaches the end, "END" lights. When recording is inhibited, "INH" lights.
	IND+003	This lights during an INDEX search. A positive number denotes an index count in the forward direction, and a negative number denotes an index count in the reverse direction. With each detection, the value is decremented to zero, and when the tape stops, the remaining tape display is restored.
25 Safety zone markers	Corner: 3 types Box: 3 types 16:9 full box: 3 types	The safety zone markers selected for 01 through 09 in SAFETY ZONE are displayed. For further details, refer to the table for "SAFETY ZONE" (page 35) on the <MARKER/ZEBRA> sub-menu.
26 Cause of !LED lighting display (this item appears only during a MODE check)	SUPER-V EXT ON FIL No1 FIL wo No1 FIL NG SHUT wo 1/100 SHUT ON WHITE ATW WHITE PRE GAIN wo 0dB	Displayed when SUPER-V is set to ON. Displayed when EXTENDER is set to ON. Displayed when FILTER is set to 1. Displayed when FILTER is set to a number other than 1. Displayed when FILTER is set to NG. Displayed when SHUTTER is set to a speed other than 1/100. Displayed when SHUTTER is set to ON. Displayed when ATW has been selected for AWB. Displayed when the AWB switch has been set to PRE. Displayed when a gain value other than 0 dB has been selected.

Selecting the viewfinder screen display

	Status displayed when the corresponding status is established	Display/non-display selected by MARKER/ZEBRA	Display/non-display selected by VF DISPLAY 1/2 or 2/2	Displayed and can be cleared	Displayed during playback
1 Extender display	○	—	○	○	—
2 INTERVAL REC status display	○	—	—	—	—
3 Time code display	—	—	○	○	○
4 Center marker	—	○	—	○	—
5 Message display	○	—	—	—	—
6 IRIS MODE switch status display	○	—	○	○	—
7 QUICK FOCUS display	○	—	—	—	—
8 Shutter speed display	○	—	○	○	—
9 LOW LIGHT warning display	○	—	○	○	—
10 AUDIO sampling frequency display	—	—	○	○	○
11 Audio level meter display	—	—	○	○	○
12 VTR warning display/voltage warning display	○	—	—	—	○
13 FULL AUTO/SCENE FILE display	○	—	○	○	—
14 AWB color temperature fine adjustment amount display	○	—	○	○	—
15 Zoom display	—	—	○	○	—
16 AWB color temperature display	—	—	○	○	—
17 ATW, AWB channel display	—	—	○	○	—
18 F value display	—	—	○	○	—
19 Gain display	—	—	○	○	—
20 Filter display	—	—	○	○	—
21 Calendar/clock display	—	—	○	○	—
22 Voltage display	—	—	○	○	—
23 Calendar/clock status switching display	○	—	—	—	—
24 Remaining tape/recording inhibit display	—	—	○	○	—
25 Safety zone markers	—	○	—	○	—

White balance and black balance adjustment

Better pictures will be produced by performing the white balance and black balance adjustments in the sequence of AWB (white balance adjustment) → ABB (black balance adjustment) → AWB. Normally, there is no need to re-adjust the black balance even when the power is turned on again.

<Notes>

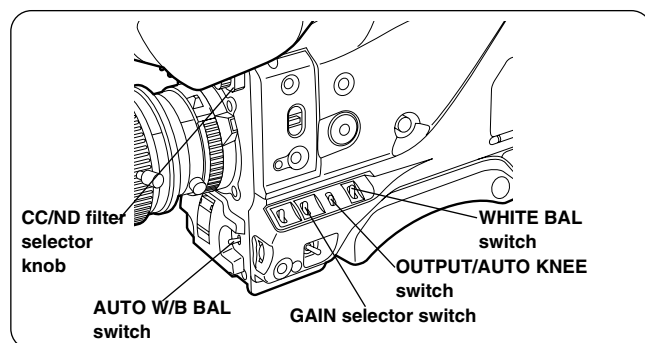
Even though the brightness under artificial lighting and especially under fluorescent lights and mercury lamps may appear to be constant, the strengths of the red, green and blue colors change in synchronization with the power line frequency. Particularly in areas where this frequency is 50 Hz, the unit's vertical sync frequency (approx. 60 Hz) and the lighting frequency (50 Hz) will be subject to mutual interference, causing the color phase to change as time passes and flicker to be generated. This makes it impossible to attain the white balance properly. It is recommended that the white balance be attained using the settings shown in the table below.

Power line frequency	Shutter speed
50Hz	1/100
60Hz	OFF

Automatic white balance adjustment

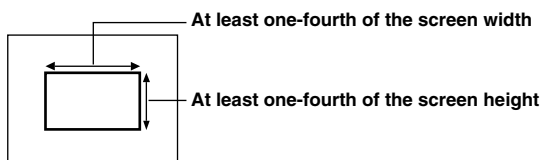
1 Set the switches to the positions shown in the figure.

- ①Set the WHITE BAL switch to A or B.
- ②Set the OUTPUT/AUTO KNEE switch to CAM.
- ③Normally, set the GAIN selector switch to 0 dB.
If it is too dark at this setting, set the gain to a more appropriate level.
- ④Set the CC/ND filter selector knob to the position corresponding to the lighting conditions.



2 Erect a white pattern at a location subject to the same conditions as the light source illuminating the subject, zoom in, and fill the screen with white.

Something white (a piece of white fabric or a white wall) near the subject can be used instead. The required size of the white object is shown in the figure below.



<Note>

Do not allow any high-brightness spots inside the screen.

3 Adjust the lens iris.

4 Push the AUTO W/B BAL switch to AWB and release it.

The switch returns to the center, and the white balance is automatically adjusted.

5 A message corresponding to the AWB execution status appears inside the viewfinder.

For details, refer to the viewfinder displays (page 16).

<Notes>

If the black balance adjustment was not completed without an error, an error message appears inside the viewfinder. Try performing the adjustment again.

If the error message persists even after another attempt at adjustment, consult your dealer or a Panasonic Service Center representative.

<Reference>

If there is no time to adjust the white balance, set the WHITE BAL switch to PRST. The white balance will be attained for the filter according to the FILTER control (outer) setting position.

The automatic tracking white balance operation is performed when ATW has been set ahead of time for the A, B and PRE positions of the WHITE BAL switch: this comes in handy at such a time.

Automatic black balance adjustment

The black balance must be adjusted in the following cases.

- When the unit is to be used for the first time
- When the unit is to be used after it has not been used for a prolonged period
- When the unit is to be used where the ambient temperature has changed significantly
- When the gain selection value has been changed
- When the MASTER GAMMA setting has been changed

1 Push the AUTO W/B BAL switch to ABB and release it.

The switch returns to the center, the iris is automatically set to the shielded mode, and the adjustment is performed.

2 A message corresponding to the ABB execution status appears inside the viewfinder.

For details, refer to the viewfinder displays (page 16).

<Notes>

•If the black balance adjustment was not completed without an error, an error message appears inside the viewfinder. Try performing the adjustment again.

If the error message persists even after another attempt at adjustment, consult your dealer or a Panasonic Service Center representative.

•The gain switching circuit is automatically switched while the black balance is being adjusted. Although flicker or noise may appear on the viewfinder screen, this is not indicative of malfunctioning.

Electronic shutter settings

Concerning the shutter modes

Shutter modes and shutter speeds that can be set

Mode	Shutter speed	Applications
Standard	1/100, 1/120, 1/250, 1/500, 1/1000 and 1/2000 (sec.)	For shooting fast-moving subjects clearly
SYNCHRO SCAN	Within the 60.3 Hz to 250.0 Hz range	For shooting monitor screens with minimal striping in the horizontal direction
SUPER V		For improving the vertical resolution

<Notes>

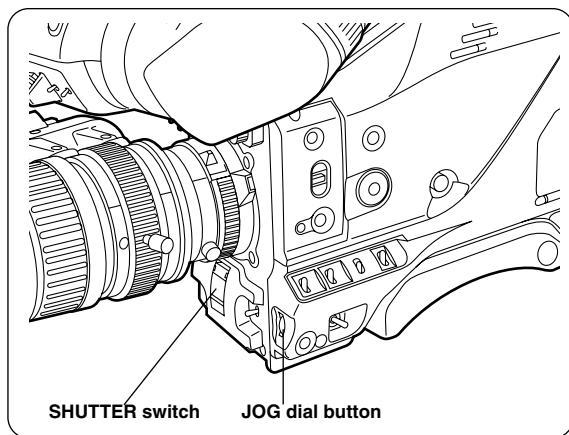
- Whatever mode is set for the electronic shutter, the faster the shutter speed, the lower the camera's sensitivity.
- In the automatic iris mode, the faster the shutter speed, the more the iris opens and the shallower the depth of focus.
- When SUPER V has been selected, the camera's sensitivity will be halved.

Setting the shutter mode and speed

- In the shutter speed and standard mode, the shutter speed is set by selecting the SHUTTER switch position.
- In the SYNCHRO SCAN mode, the shutter speed can be easily changed by operating the JOG dial button.

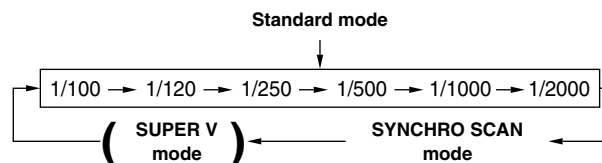
1 Push the SHUTTER switch from ON to SEL.

The current shutter setting appears in the area of the viewfinder screen where messages notifying the user of changes made to settings appear.



2 Press the SHUTTER switch to SEL again, and repeat until the desired mode or speed is displayed.

When all the modes and speeds are displayed, the display changes in the following sequence.



<Note>

The SUPER V mode is not selected as the factory setting. For this reason, it is not displayed at the factory setting. To select SUPER V mode, set the "SUPER V" of the sub-menu <SW MODE> screen to ON. (See page 37)

Setting the synchro scanning mode

1 Push the SHUTTER switch from ON to SEL and set to SYNCHRO SCAN.

The setting can be continuously selected within the 60.3 Hz to 250.0 Hz range by rotating the JOG dial button up or down.

<Note>

After the JOG dial button is rotated up or down while being pressed, the setting will continue to change as long as the button is pressed (even without the button being rotated).

Time data settings

When both the user's bit and time code are to be used, the user's bit is set first.
The time code can be set from 00:00:00:00 to 23:59:59:29.

Setting the user's bit

By setting the user's bit, memos (date, time) and other information consisting of up to 8 hexadecimal digits can be recorded on the sub-code track.

1 Set the COUNTER/TC/UB switch to UB.

2 Set the TCG switch to SET.

"UBG **:**:**:**" now appears in the viewfinder. Select a number for the flashing part by rotating the JOG dial button, and press the JOG dial button to enter it. When the number is entered, the flashing moves to the next characters on the right so that another number can be input in the same way until the user's bit is set.

3 Set the TCG switch to F-RUN or R-RUN.

4 Select the "UB MODE" on the sub-menu <VTR FUNCTION> screen. (See page 34)

Concerning the user's bit memory function

The user's bit settings (except for the actual time) are automatically stored in the memory and retained even after the power has been turned off.

<Notes>

- When DATE is selected for "UB MODE" on the sub-menu <VTR FUNCTION>, the year/month/day on the TIME/DATE screen will function in real time.
- When TIME is selected for "UB MODE" on the sub-menu <VTR FUNCTION>, the hours/minutes/seconds on the TIME/DATE screen will function in real time.

Setting the time code

1 Set the COUNTER/TC/UB switch to TC.

2 Set the TCG switch to SET.

"TCG **:**:**:**" now appears in the viewfinder. Set the time code by performing the same operations used to set the user's bit.

3 Set TC MODE to DF or NDF on the sub-menu <VTR FUNCTION> screen.

Set this to DF to advance the time code in the drop frame mode or NDF to advance it in the non-drop frame mode.

4 Set the TCG switch.

Set this to F-RUN to advance the time code in the free-run mode or R-RUN to advance it in the rec-run mode.

<Note>

The backup accuracy of the time code will be out by several frames when the POWER switch has been set from ON to OFF and then back to ON again.

Scene files

Scene file function

The values of the camera setup tailored to different shooting conditions can be stored in the unit's memory in the form of files. During shooting, the file required can be called instantly simply by turning the SCENE FILE dial.

The following six files were stored in the memory before the unit was shipped from the factory.

USER: FACTORY (user file)

F1 : FLUO. (fluorescent light file)

This file's settings establish the mode which is best suited to indoor shooting where the characteristics of fluorescent lights are taken into consideration.

F2 : SPARKLNG (sparkling file)

This file's settings establish the mode which is best suited to wedding receptions, etc. where the subject is to be livened up.

F3 : COOL (cool file)

This file's settings establish the mode which is best suited to outdoor shooting to produce images with an overall bluish tinge.

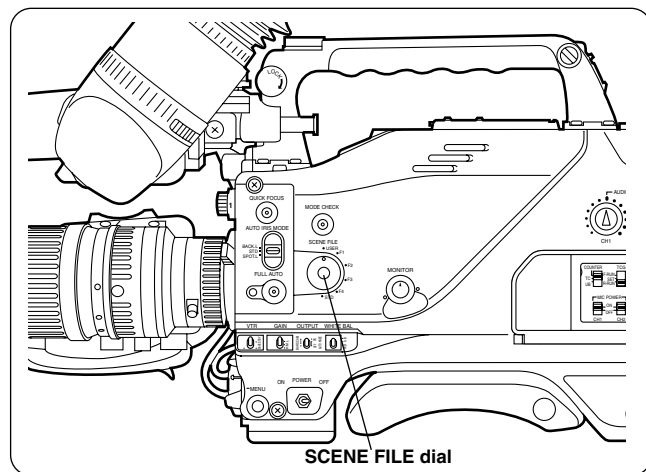
F4 : RETRO (retro file)

This file's settings establish the mode for producing images with an overall reddish tinge to create the atmosphere of bygone days.

STD : FACTORY (standard file)

Scene file setting method

The scene file settings are changed using the SCENE FILE dial and the sub-menu <SCENE FILE> screen.



Editing scene filenames

(example: USER file)

- 1 Rotate the SCENE FILE dial to select the scene file whose name is to be changed.
- 2 Proceed with the menu operations (page 30) to open the <SCENE FILE> screen.
- 3 Rotate the JOG dial button to move "→" to the NAME EDIT item, and press the JOG dial button.

```
▲ < SCENE FILE >
→ NAME EDIT  USER:FACTORY
      FILE NAME  USER:FACTORY
                F1:FLUO.
                F2:SPARKLNG
                F3:COOL
                F4:RETRO
                STD:FACTORY
                WRITE(USER) :READY
                INIT (USER) :READY
```

- 4 Rotate the JOG dial button to move "↓" to a point above the character of the filename to be changed.
- 5 When the JOG dial button is pressed, the "↓" position flashes, and the input mode is established.

```
▲ < SCENE FILE >
→ NAME EDIT  USER:FACTORY
      FILE NAME  USER:FACTORY
                F1:FLUO.
                F2:SPARKLNG
                F3:COOL
                F4:RETRO
                STD:FACTORY
                WRITE(USER) :READY
                INIT (USER) :READY
```

- 6 Rotate the JOG dial button until the next character to be changed appears.

When the button is turned, the character display is switched in the following sequence:

Space: ☐

↓
Letters of the alphabet: A through Z

↓
Numbers: 0 through 9

↓
Symbols: ', >, <, /, -

- 7 Press the JOG dial button to enter the character.
- 8 Rotate the JOG dial button to move the arrow (cursor) to the next position (on the right), and repeat steps 5, 6 and 7 to enter the remaining characters. (Not more than 8 characters may be used for a filename.)

To change the ↓ back to →, press the JOG dial button when the ↓ is above the colon (:).

Scene files

- 9** Rotate the JOG dial button to move “→” to the WRITE item.

```
▲ < SCENE FILE >
NAME EDIT  USER:TARO
-----
FILE NAME  USER:FACTORY
          F1:FLUO.
          F2:SPARKLNG
          F3:COOL
          F4:RETRO
          STD:FACTORY
→ WRITE(USER) :READY
   INIT (USER) :READY
```

- 10** When the JOG dial button is pressed, the following message is displayed.

```
▲ < SCENE FILE >
NAME EDIT  USER:TARO
-----
FILE NAME  USER:FACTORY
          F1:FLUO.
          F2:SPARKLNG
          F3:COOL
          F4:RETRO
          STD:FACTORY
→ WRITE(USER) :NO
   INIT (USER) :READY
```

- 11** Rotate the JOG dial button to select YES, and press the JOG dial button.

When the data has been written (saved), the following message is displayed.

```
▲ < SCENE FILE >
NAME EDIT  USER:TARO
-----
FILE NAME  USER:TARO
          F1:FLUO.
          F2:SPARKLNG
          F3:COOL
          F4:RETRO
          STD:FACTORY
→ WRITE(USER) :OK
   INIT (USER) :READY
```

<Note>

Repeat step 11 if the NG display appears.

- 12** Press the MENU button to exit the menu operation.

The setting menu is cleared, and the displays showing the unit's current statuses appear on the viewfinder screen.

Returning a scene filename to its default

Rotate the JOG dial button to move “→” to the INIT item, and perform steps 10 and 11 of “Editing scene filenames” in the previous section.

The scene filenames are returned to their defaults (factory settings).

<Note>

The scene file setting data are also returned to their default values.

How to use file select

Up to four menu setting parameters other than scene files can be stored in the memory. These parameter are MAIN 1/2 and MAIN 2/2 menu items. For further details, refer to “List of file settings” (page 25).

Files are written and read on the sub-menu <DATA READ/WRITE> screen (page 33). When the unit was shipped from the factory, the default values (factory settings) were stored in four files.

Proceed with the menu operations (page 30) to display the sub-menu <DATA READ/WRITE> screen.

- 1** Operate the JOG dial button to select 1, 2, 3 or 4 as the FILE SELECT number.

```
▲ < DATA READ/WRITE >
→ FILE SELECT :1
FILE READ (1):READY
FILE WRITE(1):READY
READ FACTORY :READY
```

- 2** Proceed with writing setting statuses in a file or calling them from a file.

- ① To write the unit's setting statuses in the file with the selected number when the file is selected, execute FILE WRITE (*) (where the number of the selected file is input into “*”).
- ② To call the unit's setting statuses from the file with the selected number, execute FILE READ (*).
- ③ To return to the default statuses, execute READ FACTORY.

For details on this operation, refer to the scene file settings.

Scene files

List of scene file settings

The scene file factory settings are listed in the tables below.
Use them as a reference when making changes to a USER file.

Setting item	F1	F2	F3	F4	STD	USER	Remarks
<SCENE FILE NAME>	FLUO.	SPARKLNG	COOL	RETRO	FACTORY	FACTORY	
<IRIS/GAMMA>							
A. IRIS LEVEL	0	0	0	0	0	0	
A. IRIS PEAK/AVE	PEAK, 0	PEAK, 0	PEAK, 0	PEAK, 0	PEAK, 0	PEAK, 0	
A. IRIS SPEED	0	0	0	0	0	0	
BLACK STR/PRESS	NORM	NORM	NORM	NORM	NORM	NORM	
MASTER GAMMA	0	0	0	-10	0	0	
<COLOR/SKIN TONE>							
PRE COLOR TEMP	0	0	0	0	0	0	
Ach	0	0	+10	-20	0	0	
Bch	0	0	+10	-20	0	0	
SKIN TONE DTL	OFF	OFF	OFF	OFF	OFF	OFF	
SKIN TONE RANGE	NORM	NORM	NORM	NORM	NORM	NORM	
<PROCESS>							
H DETAIL	0	+5	+5	-5	0	0	
V DETAIL	0	+5	+5	-4	0	0	
DTL CORING	0	+5	+5	0	0	0	
H. DTL FREQ.	3 MHz	3 MHz	3 MHz	3 MHz	3 MHz	3 MHz	
MATRIX	B	A	A	A	A	A	
CHROMA LEVEL	+2	+2	0	0	0	0	
CHROMA PHASE	0	0	0	0	0	0	
MASTER PED	0	0	0	0	0	0	
KNEE POINT	88%	88%	88%	88%	88%	88%	

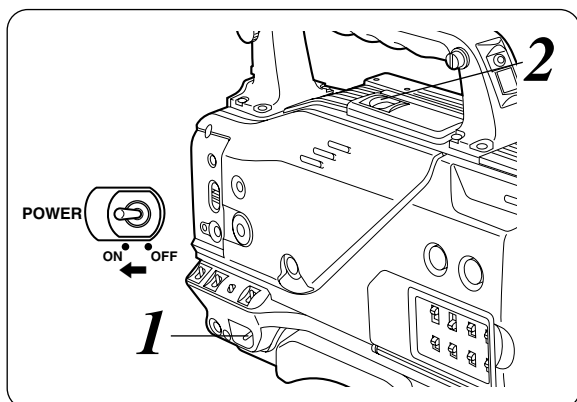
List of file settings

The items which can be selected by the file select function are listed in the tables below.
The factory settings have been set for all the default values.
Changes can be made to the settings in file numbers 1 to 4 to suit the prevailing application in mind.

Setting item	1 to 4	Remarks	Setting item	1 to 4	Remarks	Setting item	1 to 4	Remarks
<SW MODE>			<BATTERY>			<VF DISPLAY 1/2>		
LOW GAIN	0 dB		BATTERY SELECT	NiCd14		FILTER	ON	
MID GAIN	9 dB		TYPE A NEAR END	11.6 V		GAIN	ON	
HIGH GAIN	18 dB		TYPE A END	11.2 V		WHITE BAL	ON	
ATW	OFF		TYPE B NEAR END	12.7 V		COLOR TEMP	ON	
SUPER V	OFF		TYPE B END	12.4 V		IRIS (F Number)	ON	
QUICK FOCUS	ENABLE		<MIC/AUDIO>			ZOOM	ON	
FULL AUTO	ENABLE		FRONT MIC POWER	ON		TCG	TCG/TCR	
SCENE FILE	ENABLE		FRONT MIC	-50 dB		LEVEL METER	CH1+CH2	
<VIDEO IN/OUT>			REAR MIC CH1	-60 dB		TAPE REMAIN	ON	
VIDEO OUT MENU	ON		REAR MIC CH2	-60 dB		BATTERY	ON	
VIDEO OUT SEL	ENC		MIC LOWCUT CH1	ON		<VF DISPLAY 2/2>		
INPUT SELECT	CAMERA		MIC LOWCUT CH2	ON		SHUTTER SPEED	ON	
REMOTE SELECT	LOCAL		LINE CH1	-6 dB		IRIS (SPOT, BACK)	ON	
SET UP	0 %		LINE CH2	-6 dB		AUTO/SCENE NAME	ON	
<VTR FUNCTION>			<MARKER/ZEBRA>			LOW LIGHT	ON	
TC MODE	DF		SAFETY ZONE	06		TIME/DATE	OFF	
UB MODE	USER		CENTER MARK	ON		EXTENDER	ON	
FIRST REC TC	REGEN		ZEBRA1 DETECT	70%		AUDIO SAMPLING	ON	
BACK TALLY	ON		ZEBRA2 DETECT	85%		<LED>		
FF/REW SPEED	x100		ZEBRA2	SPOT		GAIN	W/O 0 dB	
AUDIO SAMPLING	48 K		VF DTL	1		WHITE	OFF	
<VTR OPTION>						SHUTTER	ON	
TIME STAMP	NO-REC					FILTER	NG	
REC TIME	00m05s					EXTENDER	ON	
INTERVAL TIME	00h0m010s					SUPER V	OFF	
PAUSE TIMER	10 min							

Normal recording

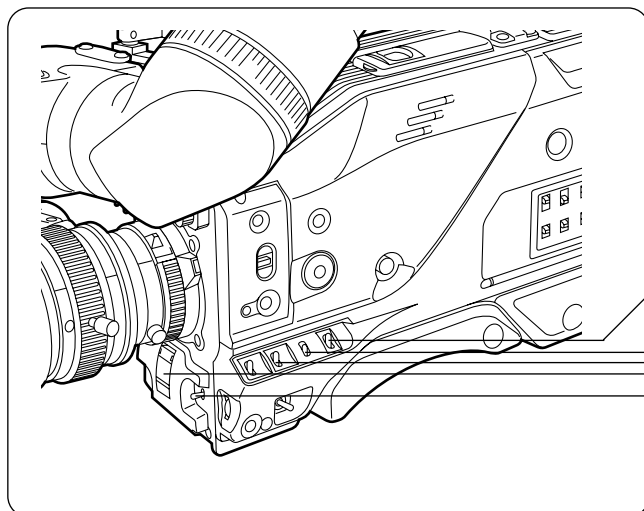
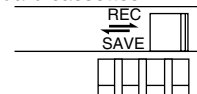
Recording methods



1 Set the POWER switch to ON.

2 Press the EJECT button to open the cassette compartment, and insert the cassette tape.

- Before proceeding with the recording, check that the cassette tab has been set to the REC position.
- This unit is used exclusively for standard cassettes.



3 Set the camera unit's switches as follows.

Use the white balance selector switch to select the desired white balance mode.

Set the OUTPUT selector switch to CAM.

Set the GAIN selector switch to the setting that supports the subject brightness.

Select the desired shutter speed as required. (Normally, the shutter is used at the OFF setting.)

When the white balance selector switch is set to A or B, adjust the white balance.

- For details on the above switches, refer to "Parts and their functions" (pages 6-8).

4 Point the camera at the subject, and adjust the lens iris, focus and zoom.

5 Press the VTR START/STOP button to start the recording.

6 Press the VTR START/STOP button to stop the recording.

Scene-to-scene continuity

Scene-to-scene continuity is possible after the tape has been allowed to run or after the cassette has been ejected or when ensuring continuity on a tape which has been recorded only in part.

1 While monitoring the viewfinder screen, press the PLAY/PAUSE button to play back the tape.

2 At the place on the tape where continuity is to be maintained, press the PLAY/PAUSE (or STOP) button again to stop the tape.

3 Press the lens RET button. It takes about two seconds to complete the preparations for the scene-to-scene continuity.

4 Press the VTR START button or lens VTR button to start the recording.

Audio recording

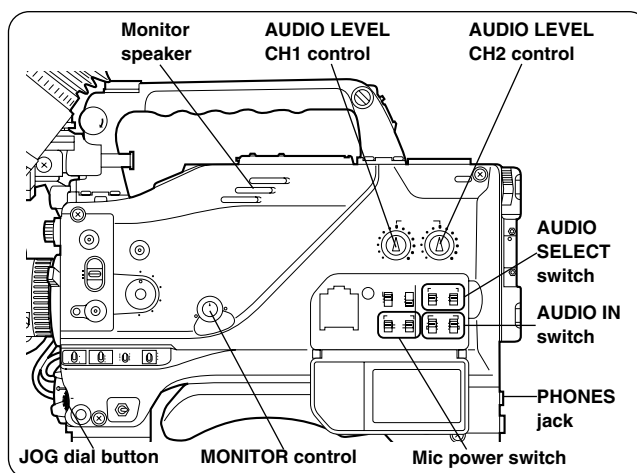
Selecting the audio input signals

1 Select the desired input signals using the AUDIO IN switch.

To use the front microphone	→ Select FRONT (MIC).
To use the rear microphone	→ Select REAR (MIC).
To use the audio products	→ Select REAR (LINE).

<Note>

- When the front microphone has been selected, select ON as the <FRONT MIC POWER> setting for the MIC/AUDIO sub-menu item if the phantom mic (+48V) needs to be supported. (See page 35)
- When the exterior microphone is selected and phantom mic (+48V) needs to be supported, set the mic power switch to ON.



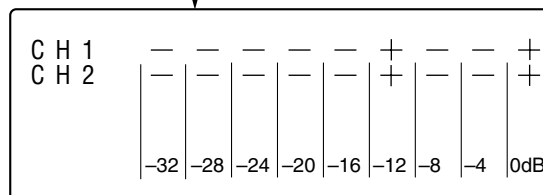
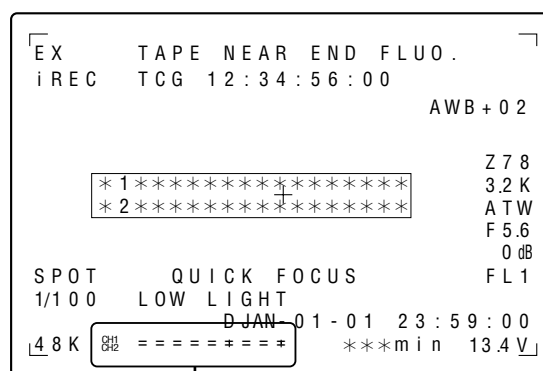
Adjusting the audio recording level

When the AUTO SELECT CH1/CH2 selector switch is set to AUTO, the input levels of the CH1 and CH2 sound are automatically adjusted.

To adjust the input levels of the CH1 and CH2 sound manually, proceed as follows

1 Set the AUTO SELECT CH1/CH2 selector switch to MAN.

2 While monitoring the audio level meter inside the viewfinder, adjust the AUDIO LEVEL CH1 and CH2 controls in such a way that the maximum input level does not exceed “-----+--+.”



Monitoring the sound during recording

The audio input signals can be monitored through the monitor speaker or earphone. When the PHONES jack is used, no sound will be heard through the monitor speaker.

The volume of the monitored sound can be adjusted using the MONITOR control.

<Note>

Howl may be caused if the volume of the audio monitor speaker is too high. In a case like this, rotate the audio monitor level control to a lower level which does not give rise to howl.

Playback *(checking what has been recorded)*

When the PLAY/PAUSE button is pressed, the playback images can be viewed in black and white on the viewfinder screen. At the same time, color playback images can be monitored from the VIDEO OUT connector.

Rec review

When recording is temporarily stopped and the RET button on the lens is pressed, the last two seconds of the recording on the tape is automatically rewound, and the playback images for those seconds appear in the viewfinder. These functions makes it possible to check whether the recording has been performed as intended.

After the images have been played back, the recording start standby status is restored.

If the RET button is held down, up to 10 seconds on the tape can be rewound and played back.

<Notes>

- The rec review function cannot be used unless the recording is at least one second long.
- During the rec review operation, the rec review images are output to not only the viewfinder but the video output connectors (VIDEO OUT connector, S-VIDEO connector) as well. Bear in mind that the rec review images will be recorded on a backup VTR if a back VTR has been connected and backup images are being recorded.

Other functions

Still-picture playback

When the PLAY button is pressed during playback, the PLAY lamp flashes, the still-picture mode is established, and still pictures can be played back

If the PLAY button is pressed again, normal playback is resumed.

INTERVAL REC (intermittent recording) function

This unit is capable of simple interval shooting (intermittent recording). This function is very useful for shooting programs with nature themes and art programs.

The INTERVAL REC function settings are selected on the sub-menu VTR OPTION screen.

- **INTERVAL REC:**
This sets the INTERVAL REC function ON, OFF or ONE SHOT.
- **REC TIME:**
This sets the recording time (1 cut) for interval shooting.
- **INTERVAL TIME:**
This sets the rec pause time for interval shooting.

When the items above are set, the INTERVAL REC mode is established, and "i" starts flashing in the viewfinder.

When the VTR START button is pressed, interval shooting starts, and the flashing "i" changes to a lighted "i REC."

When the first interval shooting is completed and the rec pause mode is established, "i REC" which had remained lighted now starts flashing in the viewfinder.

When "i REC" is set, the POWER/WARNING LED flashes in green.

<Note>

To release the INTERVAL REC mode, press the VTR START button during recording or press the STOP button during Rec Pause.

Variable speed (FF/REW) playback

- When the FF (fast forward) or REW (rewind) button is pressed during playback, playback is performed at 4X normal speed in the forward or reverse direction. When it is pressed again, playback is performed at 8X normal speed in the forward or reverse direction.
- By pressing the button again, it is possible to switch playback from 4X to 8X normal speed or vice versa.

INDEX SEARCH mode

Index areas can be searched in this mode.

- With the unit in the stop mode, press the REW or FF button while holding down the mode check button.
- During the INDEX SEARCH operation, a display such as "IND + 001" appears at the remaining tape display position in the viewfinder. "+" indicates the forward direction and "-" denotes the reverse direction while the number indicates how many times the index areas are to be detected before the operation stops.
- The index area is searched in the forward or reverse direction for the number of times that corresponds to the number of times the FF or REW button was pressed.

Example: Press the REW button 3 times.

→ The third index area back from the stop area is searched. (Viewfinder display: IND -003)

Press the FF button twice.

→ The second index area ahead from the stop area is searched. (Viewfinder display: IND +002)

- To stop index search at any time, press the STOP button. Operation stops at the tape position where the button was pressed.

<Note>

The maximum INDEX SEARCH number is -127 in the reverse direction and +128 in the forward direction.

Using the unit with external components

Connection to a video component with a DV connector

The unit can be used as a player or recorder by connecting it to a video component equipped with a DV connector using a DV cable. In either case, refer to the figure below for the connections.

Using the unit as a player

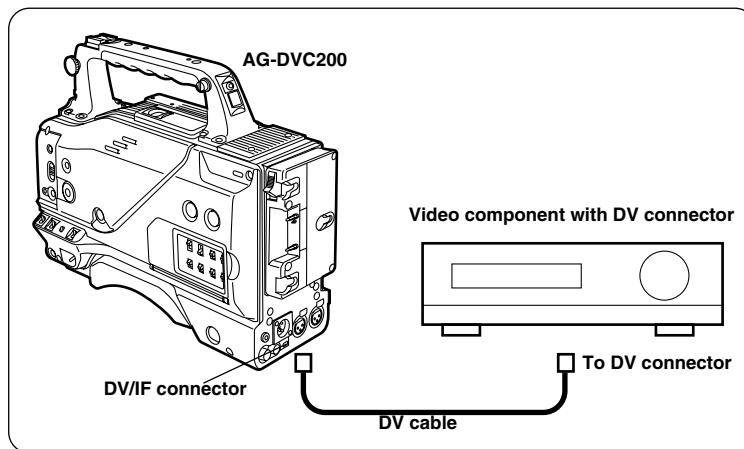
Select 1394 as the REMOTE SELECT setting on the sub-menu VIDEO IN/OUT screen. (See page 34)

The unit can now be controlled from the external video component with the DV connector.

Using the unit as a recorder

Select 1394 as the INPUT SELECT setting on the sub-menu VIDEO IN/OUT screen. (See page 34)

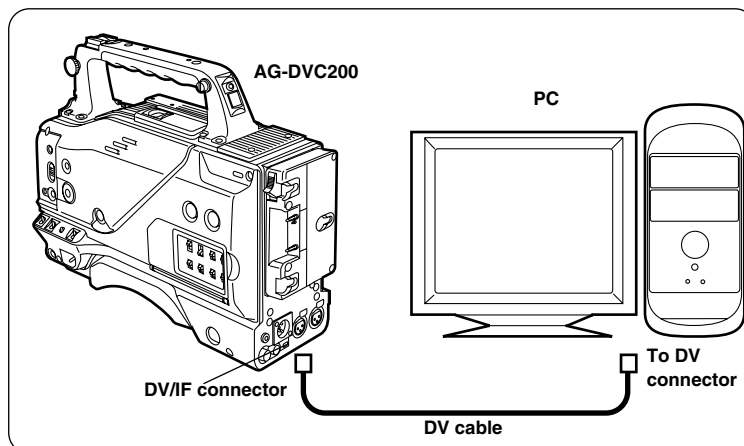
The pictures and sound of the external video component with the DV connector can now be recorded on the unit.



Connection to a PC capable of non-linear editing

By connecting the unit to a PC capable of non-linear editing using a DV cable, the unit can be controlled from the PC and pictures and sound can be input from or output to the PC.

Select 1394 as both the REMOTE SELECT and INPUT SELECT settings on the sub-menu VIDEO IN/OUT screen. Refer to the figure below for the connections. (See page 34)



<Note>

When the unit is connected by cable to an exterior device, set the VTR STBY/SAVE switch to STBY to improve response by the unit.

Menu operations

The MENU button and JOG dial button are used for the setting menu operations. The menus consist of main menus and sub-menus. The data set on the sub-menus is saved in the non-volatile memory and stored for a prolonged period of time.

Menu display enable/disable

1 Press the MENU button.

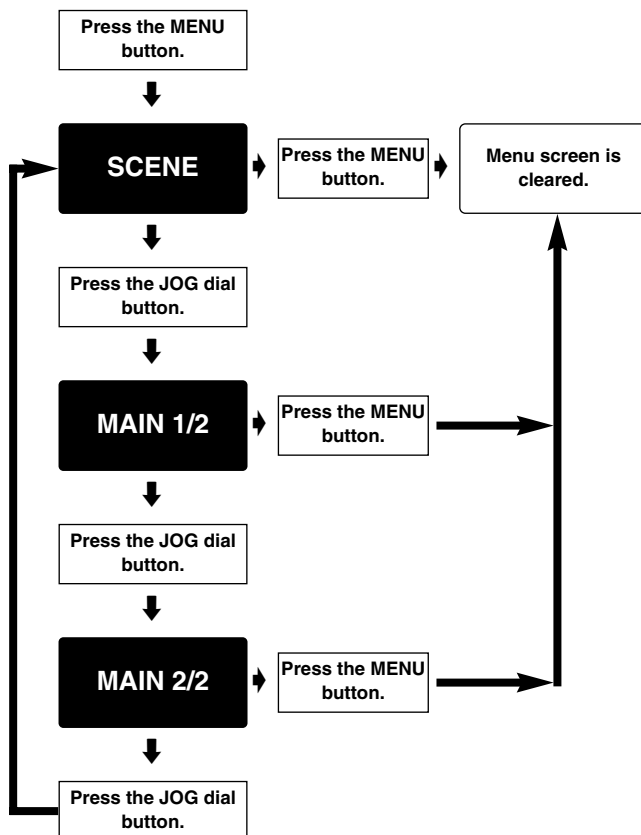
The main menu SCENE screen is displayed.

2 When the JOG dial button is pressed, the main menu MAIN 1/2 screen is displayed.

3 When the JOG dial button is pressed, the main menu MAIN 2/2 screen is displayed.

4 When the JOG dial button is pressed again, the display returns to the SCENE screen.

5 To clear the menu screen, press the MENU button.



Displaying sub-menus and deciding on settings

1 Rotate the JOG dial button while the main menu is displayed.

The cursor moves to the sub-menu items.

2 Move the “→” to the desired sub-menu item, and press the JOG dial button.

The sub-menu screen now appears. (“→” appears at the sub-menu title.

Example: Rotate the JOG dial button.

```

NEXT**** MAIN 2 / 2 ****
→MARKER/ZEBRA..
VF DISPLAY 1/2..
VF DISPLAY 2/2..
! LED..
GENLOCK..
CAMERA ID..
TIME/DATE..
DIAGNOSTIC..
  
```

3 Rotate the JOG dial button to move the cursor to the sub-menu item to be changed, and press the JOG dial button. The setting now flashes.

Example: Rotate the JOG dial button.

```

▲ < MARKER/ZEBRA >
→ SAFETY ZONE :06
CENTER MARK :ON
ZEBRA1 DETECT :070%
ZEBRA2 DETECT :085%
ZEBRA2 :SPOT
VF DTL :1
  
```

4 Rotate the JOG dial button to change the setting, and press the JOG dial button at the desired setting. The setting is now entered.

Example: Rotate the JOG dial button.

```

▲ < MARKER/ZEBRA >
→ SAFETY ZONE :06
CENTER MARK :ON
ZEBRA1 DETECT :070%
ZEBRA2 DETECT :085%
ZEBRA2 :SPOT
VF DTL :1
  
```

5 If there is another item to be set, rotate the JOG dial button to move the cursor, and decide on the setting by performing steps 3 and 4.

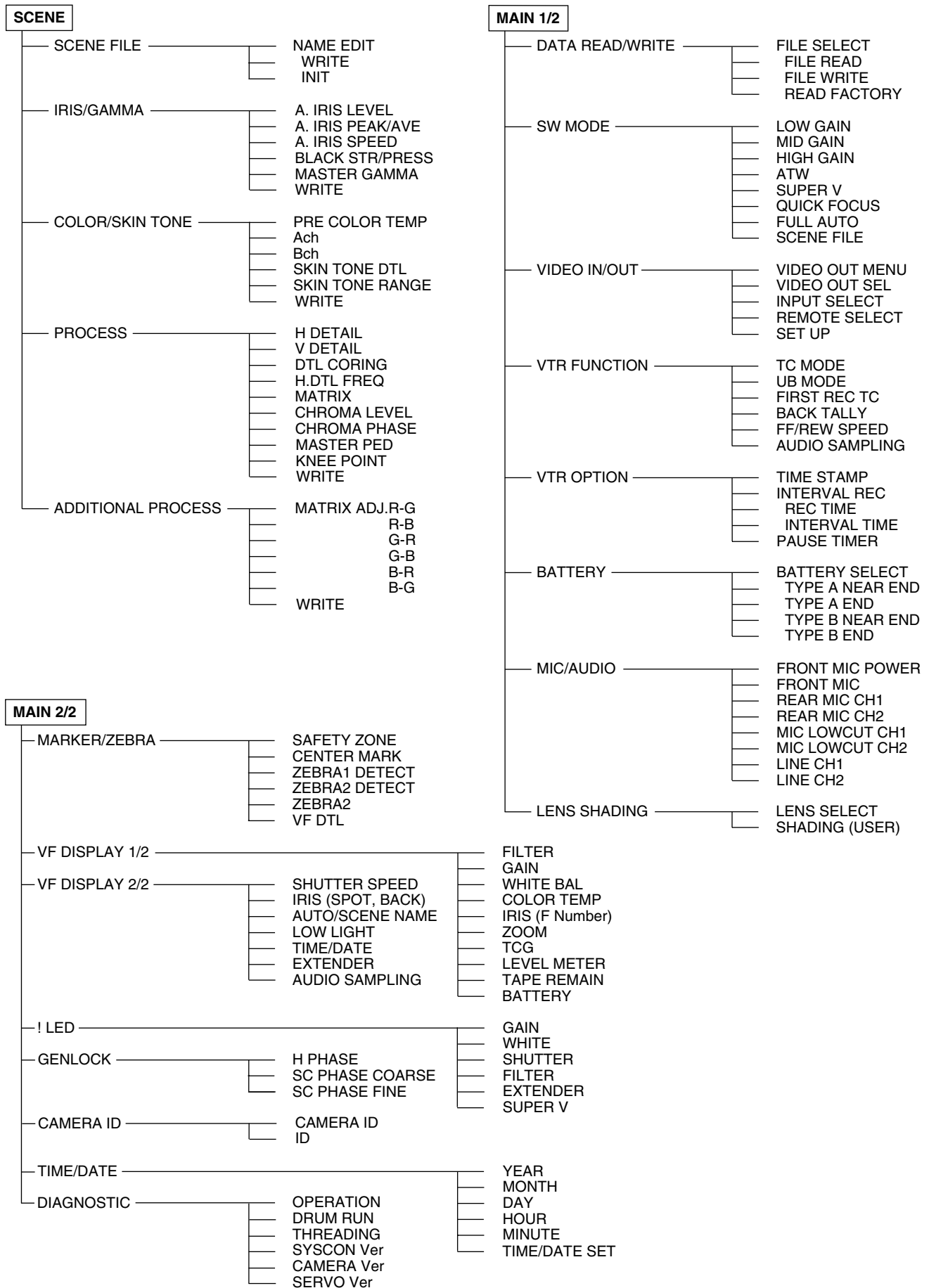
6 To move to another sub-menu, rotate the JOG dial button to move the cursor to the sub-menu title, and press the JOG dial button.

The main menu screen now appears. Follow the same procedure.

7 Upon completion of the settings, press the MENU button.

The settings are stored in the memory, the setting menu mode is exited, and the normal operation mode is restored.

Setting menu configuration



Menu contents

SCENE menu (main menu)

```

→NEXT**** SCENE ****
          F1:FLUO.
SCENE FILE..
IRIS GAMMA..
COLOR/SKIN TONE..
PROCESS..
  
```

SCENE FILE

Item	Setting options	Remarks
NAME EDIT	USER F1 - F4 STD	For editing scene filenames. For further details, refer to "Editing scene filenames" (page 23).
WRITE		For writing a scene filename.
INIT		For returning the scene filenames to their factory settings.

IRIS/GAMMA

Item	Setting options	Remarks
A. IRIS LEVEL	-10 : <u>+00</u> : +10	For setting the AUTO IRIS target value. The brightness (IRIS) is controlled using this value. The higher the setting, the brighter the images shot.
A. IRIS PEAK/AVE	AVE 10 : 01 <u>PEAK</u> <u>00</u> : 10	For setting the ratio between the AUTO IRIS peak value control and average value control. With a setting of 10 for AVE, control is exercised completely by the average value; with a setting of 10 for PEAK, control is exercised completely by the peak value.
A. IRIS SPEED	-2 : <u>+0</u> : +2	For setting the AUTO IRIS speed.
BLACK STR/PRESS	PRESS <u>NORM</u> STR	For selecting the low-brightness black rise. PRESS: The black is compressed, and the images appear tight. NORM: Standard setting STR: The black is extended, and the gradations in the dark areas are expanded.
MASTER GAMMA	-15 : <u>+00</u> : +05	For setting the master gamma.
WRITE		For saving the data.

COLOR/SKIN TONE

Item	Setting options	Remarks
PRE COLOR TEMP	-30 : <u>+00</u> : +30	For finely adjusting the color temperature from the white balance when the WHITE BAL switch is set to the PRE position. This does not function with the ATW mode.
Ach	-30 : <u>+00</u> : +30	For finely adjusting the color temperature from the white balance when the WHITE BAL switch is set to the A position. This does not function with the ATW mode.
Bch	-30 : <u>+00</u> : +30	For finely adjusting the color temperature from the white balance when the WHITE BAL switch is set to the B position. This does not function with the ATW mode.
SKIN TONE DTL	ON <u>OFF</u>	For setting the skin tone detail ON or OFF. When the skin tone detail is set to ON, the detail in the skin tone areas is reduced, diminishing the feeling of roughness in the skin. <Note> When ON has been set for SKIN TONE DTL and the SKIN TONE RANGE or SKIN TONE CORING menu item is being set, the SKIN TONE ZEBRA pattern will appear for 10 seconds.
SKIN TONE RANGE	<u>NORM</u> WIDE	For setting the skin tone detail range. NORM: Normal range WIDE: Wide range
WRITE		For saving the data.

“ ” denotes the mode which was set at the factory.

Menu contents

SCENE MENU (main menu)

PROCESS

Item	Setting options	Remarks
H DETAIL	-10 : <u>+00</u> : +10	For setting the amount of detail in the horizontal direction.
V DETAIL	-05 : <u>+00</u> : +15	For setting the amount of detail in the vertical direction.
DTL CORING	-5 : <u>+0</u> : +5	For setting the amount of detail coring.
H.DTL FREQ.	2MHz 3MHz 4MHz	For setting the detail boost frequency in the horizontal direction.
MATRIX	<u>A</u> B ADJ	For selecting the color compensation matrix table. A: Standard setting B: For shooting under fluorescent lighting. ADJ: Changes to the MATRIX value set for <ADDITIONAL PROCESS>.
CHROMA LEVEL	-2 : <u>+0</u> : +2	For setting the chroma level.
CHROMA PHASE	-31 : <u>+00</u> : +31	For setting the chroma phase. The skin tone takes on a reddish tinge in the "+" direction.
MASTER PED	-26 : <u>+00</u> : +26	For setting the master pedestal level.
KNEE POINT	90% : 100%	For setting the knee point position.
WRITE		For saving the data.

ADDITIONAL PROCESS

Item	Setting options	Remarks
MATRIX ADJ. R-G	+00	This is effective when ADJ has been selected for the "MATRIX" item of <PROCESS>. The MATRIX table can be adjusted/set as desired.
R-B	+00	
G-R	+12	
G-B	+00	
B-R	+00	
B-G	+00	
WRITE		For saving the data.

MAIN menu 1 of 2 (main menu)

→NEXT**** MAIN 1 / 2 ****

DATA READ/WRITE..
SW MODE..
VIDEO IN/OUT..
VTR FUNCTION..
VTR OPTION..
BATTERY..
MIC/AUDIO..
LENS SHADING..

DATA READ/WRITE

Item	Setting options	Remarks
FILE SELECT	1/2/3/4	For storing the menu setting parameters in the memory. For further details, refer to "How to use file select." (page 28)

SW MODE

Item	Setting options	Remarks
LOW GAIN	<u>0dB</u> : 36dB	For setting the gain allocated to the LOW GAIN switch. A setting from 0 to 36 dB can be selected.
MID GAIN	0dB : <u>9dB</u> : 36dB	For setting the gain allocated to the MID GAIN switch. A setting from 0 to 36 dB can be selected.
HIGH GAIN	0dB : <u>18dB</u> : 36dB	For setting the gain allocated to the GAIN switch. A setting from 0 to 36 dB can be selected.
ATW	PRE Ach Bch <u>OFF</u>	For setting at which WHITE BAL switch position the full time auto white balance mode is to be enabled. PRE: ATW is enabled at the PRE position. Ach: ATW is enabled at the Ach position. Bch: ATW is enabled at the Bch position. OFF: Full time auto balance is not performed.
SUPER V	ON <u>OFF</u>	For selecting the vertical high resolution mode.
QUICK FOCUS	<u>ENABLE</u> DISABLE	For enabling or disabling the quick focus function.
FULL AUTO	<u>ENABLE</u> DISABLE	For enabling or disabling the full auto function.
SCENE FILE	<u>ENABLE</u> DISABLE	For enabling or disabling the scene file function. ENABLE: The scene file function is enabled. DISABLE: The scene file function is restricted to the user files.

"_____" denotes the mode which was set at the factory.

Menu contents

MAIN menu 1 of 2 (main menu)

VIDEO IN/OUT

Item	Setting options	Remarks
VIDEO OUT MENU	ON OFF	For selecting whether to output the menu screens to the VIDEO OUT connector. ON: The screens are output. OFF: The screens are not output. <Note> The VIDEO OUT MENU item is valid only when ENC has been selected as the VIDEO OUT SETTING setting.
VIDEO OUT SEL	ENC VF	For selecting whether the VTR signals or VF signals are to be output from the VIDEO OUT connector. ENC: VTR output VG: VF output
INPUT SELECT	CAMERA 1394	For selecting the input signals of the VTR to be recorded. CAMERA: Unit's camera signals 1394: Signals from 1394
REMOTE SELECT	LOCAL 1394	For selecting the VTR control. LOCAL: Control from the unit only 1394: Control from 1394
SET UP	0% 7.5%	For selecting the CAM OUT/VIDEO OUT output setup. For selecting the CAM OUT/VIDEO OUT output setup. When 7.5 % is selected, 7.5 % setup is also applied to the tape.

VTR FUNCTION

Item	Setting options	Remarks
TC MODE	DF NDF	For setting the time code to the DF or NDF mode. DF: Drop frame mode NDF: Non-drop frame mode
UB MODE	USER TIME DATE TCG	For selecting what is to be recorded in the user's bit area. USER: User setting (fixed) TIME: Real time value in hours/minutes/seconds DATE: Real time value in year/month/day/hours TCG: Time code generator value
FIRST REC TC	REGEN PRESET	For selecting whether the TC REGEN mode is to be established when recording is started. REGEN: The regeneration mode is established for the time code on the tape. PRESET: The regeneration mode is not established for the time code on the tape. However, it is forcibly established when the unit is transferred from REC PAUSE to REC.
BACK TALLY	ON OFF	For selecting whether the back tally lamp is to light. ON: The lamp lights. OFF: The lamp does not light.
FF/REW SPEED	x32 x64 x100	For setting the fast forward and rewind speed. x32: 32 times normal speed x64: 64 times normal speed x100: 100 times normal speed
AUDIO SAMPLING	32K 48K	For selecting the audio sampling frequency. 32K: 32 kHz 48K: 48 kHz

VTR OPTION

Item	Setting options	Remarks
TIME STAMP	REC NO-REC	For selecting whether to superimpose the date and time onto the camera's video recording. REC: Superimposed NO-REC: Not superimposed
INTERVAL REC	OFF ON ONE-SHOT	For setting whether to perform intermittent recording. OFF: Not performed ON: Performed ONE-SHOT: Recording is performed once for the period set for REC TIME, and then stops.
REC TIME	00m05s : 59m59s	For setting the recording time for intermittent recording. <Note> The REC TIME setting is effective only when ON or ONE-SHOT is set for INTERVAL REC.
INTERVAL TIME	00h00m10s : 23h59m59s	For setting the REC PAUSE time during intermittent recording. <Note> The INTERVAL TIME item is valid only when ON has been selected as the INTERVAL REC setting.
PAUSE TIME	10min 20min 30min	For setting the time that is allowed to elapse before REC PAUSE is replaced with SAVE. 10min: 10 minutes 20min: 20 minutes 30min: 30 minutes

BATTERY

Item	Setting options	Remarks
BATTERY SELECT	NiCd12 NiCd13 NiCd14 TYPE A TYPE B	For selecting the type of battery used. NiCd12: NP-1B made by Sony NiCd13: TRIM13 made by Anton Bauer NiCd14: TRIM14 made by Anton Bauer TYPE A: AJ-BP490 TYPE B: Digital 14V (Hitron 100) made by Anton Bauer
TYPE A NEAR END	11.0V : 11.6V : 15.0V	For designating the type A voltage. When the voltage set here is reached, the battery is considered to have a minimal remaining charge, and a warning is displayed. A voltage from 11.0V to 15.0V is used as the setting.
TYPE A END	11.0V : 11.2V : 15.0V	For designating the type A voltage. When the voltage set here is reached, the battery is considered to be flat, and a warning is displayed. A voltage from 11.0V to 15.0V is used as the setting.
TYPE B NEAR END	11.0V : 12.7V : 15.0V	For designating the type B voltage. When the voltage set here is reached, the battery is considered to have a minimal remaining charge, and a warning is displayed. A voltage from 11.0V to 15.0V is used as the setting.
TYPE B END	11.0V : 12.4V : 15.0V	For designating the type B voltage. When the voltage set here is reached, the battery is considered to be flat, and a warning is displayed. A voltage from 11.0V to 15.0V is used as the setting.

"_____" denotes the mode which was set at the factory.

Menu contents

MAIN menu 1 of 2 (main menu)

MIC/AUDIO

Item	Setting options	Remarks
FRONT MIC POWER	ON OFF	ON: Phantom power is supplied to the front microphone. OFF: Phantom power is not supplied to the front microphone.
FRONT MIC	-40dB -50dB -60dB	For selecting the camera mic input level.
REAR MIC CH1	-40dB -50dB -60dB	For setting the input mic level for the rear jack AUDIO CH1 input.
REAR MIC CH2	-40dB -50dB -60dB	For setting the input mic level for the rear jack AUDIO CH2 input.
MIC LOWCUT CH1	ON OFF	ON: The low-cut filter is set to ON for the rear jack AUDIO CH1 mic input. OFF: The low-cut filter is set to OFF for the rear jack AUDIO CH1 mic input.
MIC LOWCUT CH2	ON OFF	ON: The low-cut filter is set to ON for the rear jack AUDIO CH2 mic input. OFF: The low-cut filter is set to OFF for the rear jack AUDIO CH2 mic input.
LINE CH1	+4dB 0dB -6dB	For selecting the rear jack AUDIO CH1 line input level.
LINE CH2	+4dB 0dB -6dB	For selecting the rear jack AUDIO CH2 line input level.

LENS SHADING

Item	Setting options	Remarks
LENS SELECT	A B C USER	For selecting the type of lens mounted on the unit. A: S18 x 6.7BERM4 S18 x 6.7BRM4 S19 x 6.5BERM4 S19 x 6.5B YH18 x 6.7IRS YH12 x 4.8IRS B: YH18 x 6.7KRS YH14 x 7.3KRS YH12 x 4.8KRS S14 x 7.5BRM4 S17 x 6.6BRM4 C: S14 x 7.3BRM (For AG-DVC200L) USER: Lens other than A, B or C
SHADING (USER)		For performing shading compensation for the USER lens.

MAIN menu 2 of 2 (main menu)

→NEXT**** MAIN 2 / 2 ****

MARKER/ZEBRA..
VF DISPLAY 1/2..
VF DISPLAY 2/2..
! LED..
GENLOCK..
CAMERA ID..
TIME/DATE..
DIAGNOSTIC..

MARKER/ZEBRA

Item	Setting options	Remarks
SAFETY ZONE	OFF 01 : 06 : 09	For selecting the shape of the safety markers. OFF: No markers are displayed. 01: 80% and 90% corner display 02: 80% corner display 03: 90% corner display 04: 80% and 90% box display 05: 80% box display 06: 90% box display 07: 16:9 picture frame and 90% of 16:9 display 08: 16:9 picture frame and 80% of 16:9 display 09: 16:9 picture frame (100%) display
CENTER MARK	ON OFF	For setting the center marker display to ON or OFF. ON: Displayed OFF: Not displayed
ZEBRA1 DETECT	070% : 104%	For setting the boundary at which the zebra 1 pattern appears.
ZEBRA2 DETECT	071% : 085% : 105%	When the next menu item, ZEBRA2, is set to SPOT or OFF: → This item sets the boundary at which the zebra 1 pattern appears. When the next menu item, ZEBRA2, is set to ON: → This item sets the boundary level at which the pattern is switched to zebra 1. <Note> The ZEBRA2 DETECT level must be set higher than the ZEBRA1 DETECT level.
ZEBRA2	ON OFF SPOT	For selecting the zebra 2 pattern type. ON: Zebra patterns 1 and 2 are displayed. OFF: Only zebra pattern 1 is displayed. SPOT: Zebra pattern 1 is displayed from the level set for ZEBRA1 DETECT to the level set for ZEBRA2 DETECT.
VF DTL	1 2 3 OFF	For selecting VF DTL. The higher the number, the more the detail of the signals for the viewfinder is emphasized. When OFF is set, the detail signals are not output.

“_____” denotes the mode which was set at the factory.

Menu contents

MAIN menu 2 of 2 (main menu)

VF DISPLAY 1/2

The information to be displayed in the viewfinder is selected on this menu.

Item	Setting options	Remarks
FILTER	ON OFF	For setting the filter position display ON or OFF. ON: Displayed OFF: Not displayed
GAIN	ON OFF	For setting the gain switch position display ON or OFF. ON: Displayed OFF: Not displayed
WHITE BAL	ON OFF	For setting the WHITE BAL switch position and ATW display ON or OFF. ON: Displayed OFF: Not displayed
COLOR TEMP	ON OFF ATW ONLY	For setting the color temperature and fine color temperature adjustment amount displays ON or OFF. ON: Displayed OFF: Not displayed ATW ONLY: The color temperature is displayed only with ATW, and the fine color temperature adjustment amount is not displayed.
IRIS (F Number)	ON OFF	For setting the F-value display ON or OFF. ON: Displayed OFF: Not displayed
ZOOM	ON OFF	For setting the zoom display ON or OFF. ON: Displayed OFF: Not displayed
TCG	TCG TCR TCG/TCR OFF	For setting the time code display ON or OFF. TCG: The value set using the TC/UB/COUNTER switch is displayed in the EE mode only. TCR: The value set using the TC/UB/COUNTER switch is displayed in the VV mode only. TCG/TCR: Depending on the TC/UB/COUNTER switch setting, the TCG/UBG/COUNTER value is displayed in the EE mode, and the TCR/UBR/COUNTER value is displayed in the VV mode. OFF: Not displayed
LEVEL METER	OFF CH1 CH2 CH1+CH2	For setting the audio level meter display ON or OFF. OFF: Not displayed CH1: Only the CH1 audio level is displayed. CH2: Only the CH2 audio level is displayed. CH1+CH2: The CH1 and CH2 audio levels are displayed.
TAPE REMAIN	ON OFF	For setting the tape type and remaining tape display ON or OFF. ON: Displayed OFF: Not displayed
BATTERY	ON OFF	For setting the battery voltage display ON or OFF. ON: Displayed OFF: Not displayed

VF DISPLAY 2/2

The information to be displayed in the viewfinder is selected on this menu.

Item	Setting options	Remarks
SHUTTER SPEED	ON OFF	For setting the shutter speed display ON or OFF when the shutter is ON. ON: Displayed OFF: Not displayed
IRIS (SPOT, BACK)	ON OFF	For selecting whether SPOT or BACK is to be displayed when the auto iris selector switch is at SPOT.L or BACK.L. ON: Displayed OFF: Not displayed
AUTO/SCENE NAME	ON OFF	For setting the AUTO or SCENE FILE name display ON or OFF when FULL AUTO or SCENE FILE has been selected. ON: Displayed OFF: Not displayed
LOW LIGHT	ON OFF	For setting the LOW LIGHT display ON or OFF when shooting under low-light conditions. ON: Displayed OFF: Not displayed
TIME/DATE	TIME DATE TIME+DATE OFF	For selecting whether to display the date and time when the camera's images are output. TIME: Only the time is displayed. DATE: Only the date is displayed. TIME+DATE: The time and date are displayed. OFF: Neither the time nor date is displayed.
EXTENDER	ON OFF	For setting the EXT display ON or OFF when the extender is ON. ON: Displayed OFF: Not displayed
AUDIO SAMPLING	ON OFF	For setting the sampling frequency display ON or OFF. ON: Displayed OFF: Not displayed

“_____” denotes the mode which was set at the factory.

Menu contents

MAIN menu 2 of 2 (main menu)

!LED

Whether the !LED display is to appear on the viewfinder screen is selected on this menu.

Item	Setting options	Remarks
GAIN	OFF <u>W/O 0dB</u>	For setting the !LED display ON or OFF at any gain setting except 0 dB. OFF: Not displayed W/O dB: Displayed at any gain setting except 0 dB
WHITE	ATW PRE <u>OFF</u>	For setting the !LED display ON or OFF when the WHITE BAL switch is at the PRE position or ATW has been set. ATW: Displayed in the ATW mode. PRE: Displayed when PRE is the position setting. OFF: Not displayed
SHUTTER	ON OFF	For setting the !LED display ON or OFF when the shutter is ON. ON: Displayed OFF: Not displayed
FILTER	OFF W/O No 1 No 1 <u>NG</u>	For setting the !LED display relating to the filter ON or OFF. OFF: Not displayed W/O No.1: Displayed except when filter 1 is set. No.1: Displayed when filter 1 is set. NG: Displayed when the filter position is not fixed.
EXTENDER	ON OFF	For setting the !LED display ON or OFF when the extender is ON. ON: Displayed OFF: Not displayed
SUPER V	ON <u>OFF</u>	For setting the !LED display ON or OFF when SUPER V is ON. ON: Displayed OFF: Not displayed

GENLOCK

Item	Setting options	Remarks
H PHASE	000 : <u>200</u> : 255	For finely adjusting the horizontal sync phase during gen-lock.
SC PHASE COARSE	00 : <u>07</u> : 15	For coarsely adjusting the burst phase during gen-lock.
SC PHASE FINE	000 : <u>128</u> : 255	For finely adjusting the burst phase during gen-lock.

CAMERA ID

Item	Setting options	Remarks
CAMERA ID	ID ID+ (TIME+ DATE) OFF	For displaying and recording the ID data when color bar signals are supplied. ID: The ID data is displayed and recorded. ID+(TIME+DATE): The ID data and time/date are displayed and recorded. OFF: The ID data is neither displayed nor recorded.

TIME/DATE

Item	Setting options	Remarks
YEAR	00 : <u>01</u> : 99	For setting the year.
MONTH	01 : <u>12</u>	For setting the month.
DAY	01 : <u>31</u>	For setting the day of the month.
HOUR	00 : <u>23</u>	For setting the hour.
MINUTE	00 : <u>59</u>	For setting the minutes.

DIAGNOSTIC

Item	Setting options	Remarks
OPERATION		VTR ON time (indicated in hour increments)
DRUM RUNNING		Head cylinder rotation time (indicated in hour increments)
THREADING		Number of loading/unloading times
SYSCON Ver		SYSCON software version display
CAMERA Ver		CAMERA software version display
SERVO Ver		SERVO software version display

“_____” denotes the mode which was set at the factory.

Warning system

When an error or trouble is detected immediately after the power is turned on or while an operation is underway, the WARNING lamp and lamps inside the viewfinder serve to alert the user to the occurrence of the error or trouble.

■ SLACK

WARNING lamp	Flashes four times per second.
Tally lamp	Flashes four times per second.
Viewfinder	The SLACK display flashes.
Description of warning	Trouble has occurred in the motor, solenoid or other mechanism.
VTR unit operation	The tape stops traveling. When solenoid trouble has been detected, the power is turned off.
Remedial action	Check the error code (see page 40) shown in the viewfinder and consult your nearest service center.

■ SERVO

WARNING lamp	Flashes four times per second (during recording and playback).
Tally lamp	Flashes four times per second (during recording and playback).
Viewfinder	The SERVO display flashes (during recording and playback).
Description of warning	The servo is out of sync.
VTR unit operation	Operation continues but it may not be performed properly.
Remedial action	Turn off the unit's power, and consult your dealer.

■ REC WARNING

WARNING lamp	Flashes four times per second (for over 3 seconds during recording).
Tally lamp	Flashes four times per second (for over 3 seconds during recording).
Viewfinder	The REC WARNING display flashes (for over 3 seconds during recording).
Description of warning	Trouble has occurred with the recording control signals.
VTR unit operation	Recording continues but it may not be performed properly while the warning is displayed.
Remedial action	This trouble has occurred with the control signals inside the unit. Consult your nearest service center.


■ HUMID

WARNING lamp	<ul style="list-style-type: none"> • Lights when condensation has been detected. • Flashes once a second from 10 minutes after the condensation detection has been released for a duration of 80 minutes.
Tally lamp	<ul style="list-style-type: none"> • Flashes four times per second starting at the time when the condensation was detected until 10 minutes have elapsed after the condensation detection was released. • The lamp turns off 10 minutes after the condensation detection status is released.
Viewfinder	The HUMID display flashes starting at the time when the condensation was detected until 90 minutes have elapsed after the condensation detection was released.
Description of warning	Condensation has formed.
VTR unit operation	The recording operation continues but it will stop if the tape sticks. For 80 minutes after the condensation detection was released, the operation which causes the drum to rotate is not acknowledged.
Remedial action	Stop the tape travel, and turn off the unit's power. If the HUMID display fails to go out even after the power has been turned back on, wait until it goes out.

■ RF

WARNING lamp	Flashes four times per second (during recording).
Tally lamp	Flashes four times per second (during recording).
Viewfinder	The RF display flashes (during recording).
Description of warning	The video heads are clogged. This trouble occurs in the recording system.
VTR unit operation	The cleaning roller is actuated to clean the heads (max. 3 seconds). Recording continues but it may not be performed properly. The warning display remains flashing up to the REC/PAUSE mode. It goes out when the unit's mode is transferred from REC/PAUSE.
Remedial action	Clean the heads. If recording still cannot be performed properly even after cleaning, turn off the unit's power, and consult your nearest service center.

■ TAPE NEAR END

WARNING lamp	Flashes once per second (during recording).
Tally lamp	Flashes once per second (during recording).
Viewfinder	<ul style="list-style-type: none"> • The remaining tape display flashes (in the EE mode) •  flashes for 3 seconds one minute before the tape-end.
Description of warning	The tape is approaching its end (2 minutes remain).
VTR unit operation	Operation continues.
Remedial action	Replace the cassette tape as necessary.

Warning system

■ TAPE END

WARNING lamp	Lights (during stop and standby OFF).
Tally lamp	Flashes four times per second (during stop and standby OFF).
Viewfinder	END lights, and the TAPE END display flashes (during stop and standby OFF).
Description of warning	The tape has come to the end.
VTR unit operation	If the unit is in the recording, playback or fast forward mode, operation is stopped.
Remedial action	Rewind the tape. Alternatively, replace the cassette tape.

■ BATTERY NEAR END

WARNING lamp	Flashes once per second.
Tally lamp	Flashes once per second.
Viewfinder	The BATT NEAR END display flashes.
Description of warning	The battery is nearly flat.
VTR unit operation	Operation continues.
Remedial action	Replace the battery as necessary.

■ BATTERY END

WARNING lamp	Lights.
Tally lamp	Flashes once per second.
Viewfinder	The BATT END display flashes.
Description of warning	The battery is flat.
VTR unit operation	All operations are stopped, and the tape is unloaded. Only the cassette tape eject operation is acknowledged.
Remedial action	Replace the battery.

<Note>

Given below is the sequence of priority for the WARNING lamp, tally lamp and warnings in the viewfinder. If more than one error has occurred at the same time, the display with the higher priority appears.

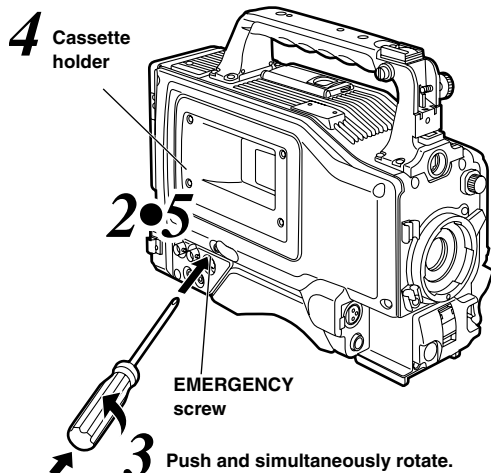
1. SLACK
2. BATTERY END
3. REC WARNING
4. TAPE END
5. HUMID
6. SERVO
7. RF
8. BATTERY NEAR END
9. TAPE NEAR END

Emergency eject

If the cassette cannot be ejected even when the EJECT button is pressed, the tape can still be removed by using a screwdriver to push and simultaneously rotate the EMERGENCY screw.

- 1 Set the power to OFF.
- 2 As shown in the figure, remove the rubber cap, and insert a Phillips head screwdriver into the cross-recessed part of the EMERGENCY screw (red).

- 1 Set the power to OFF.



- 3 While pushing the screwdriver, keep turning the EMERGENCY screw counterclockwise until the tape is ejected.

- From the moment when the screw is first turned, it takes about 20 turns for unloading to commence.
- From the moment when the screw is first turned, it takes about 90 turns for the tape to be ejected.

- 4 Remove the cassette.

- 5 Return the rubber cap to its original position.

<Notes>

- Refrain from turning the EMERGENCY screw except in an emergency.
- Do not turn the screw clockwise. Do not turn the screw any more after the tape has been ejected. Doing so may damage the mechanism.
- After the tape has been ejected, the cassette holder will not lock even when it is closed. The power must be turned back on, and the mechanical operations reset before closing the cassette holder.
- When the EMERGENCY screw is turned, a clicking sound will be heard: this is the sound of the reel drive operating which is normal and not indicative of malfunctioning.

Maintenance

Condensation

When the unit is taken from cold to warm surroundings or used in a very humid place, the water vapor contained in the air may turn into droplets of water when it makes contact with the head drum. This phenomenon is known as condensation, and if the tape is run while condensation has formed inside the unit, the tape tends to stick to the head drum.

Bear in mind the following points:

- Remove the tape before starting to use the unit under conditions which may be conducive to the formation of condensation.
- Before inserting the tape, set the power switch to ON, and check that the HUMID display has not lighted in the viewfinder.

<Note>

To ensure safety, the HUMID display remains flashing and the head drum is rotated for 80 minutes after the condensation detection has been released.

During this period, none of the control buttons will operate.

Replacing the backup battery

The backup battery is mounted in the unit prior to the unit's shipment from the plant.

When the backup battery is used up and the power switch is set to ON, the BACKUP BATTERY EMPTY message appears in the viewfinder for 5 seconds.

After consulting your dealer, replace the old backup battery with a new one (CR2032 or BR2032). After replacing the battery, press the backup battery cover firmly into place until a click is heard. For details on the battery position, refer to "Parts and their functions" (pages 6 and 7).

Cleaning the heads

Use the AY-DVCL cleaning cassette when it is necessary to clean the heads.

Since the video heads may be damaged if the proper directions for using cleaning cassette are not followed, read the handling instructions which accompany the cleaning tape prior to use.

Cleaning inside the viewfinder

- Do not use paint thinners or other solvents to remove dirt.
- Use a lens cleaner available on the market to wipe the lens.
- Never wipe the mirror under any circumstances.

If dirt or dust has adhered to the mirror, blow it away using an air blower available on the market.

Concerning phenomena inherent to CCD cameras

Smear

This may occur when extremely bright subjects are shot. The higher the electronic shutter speed, the more this phenomenon is liable to occur.

Error codes


When an error has occurred in the unit for some reason or other, one of the error codes shown on the right will be displayed in the viewfinder.

Code No.	Description
04	Pinch solenoid trouble
08	Cleaning solenoid trouble
0B	Supply reel trouble
0C	Take-up reel trouble
0D	Capstan trouble
0E	Head cylinder trouble
0F	Loading trouble

Specifications

[GENERAL]

Power requirements: DC 12V (11.0V to 17.0V) Power consumption: 17W

 indicates safety information.

Operating temperature:	0 to 40 C
Storage temperature:	-20 to +60 C
Operating humidity:	Less than 85% (relative humidity)
Continuous operating time:	Approx. 120 min. (continuous recording time using the TRIMPAC14 made by Anton Bauer)
Dimensions:	123(W) x 190(H) x 292(D) mm (excluding grip)
Weight:	Approx. 3 kg (main unit only)

[CAMERA UNIT]

Pickup device:	1/2-inch IT type CCD (410,000 pixels)
System:	RGB 3-CCD system
Total number of pixels:	811(H) x 508(V)
Number of effective pixels:	768(H) x 494(V)
Spectral system:	f/1.4 prism system
Internal filters:	1: 3200K (clear) 2: 5600K + 1/8N 3: 5600K 4: 5600K + 1/64ND
Quantizing:	10 bits, non-linear
Sampling frequency:	14.31818 MHz (4 fsc)
Digital signal processing:	28.63636 MHz (8 fsc)
Horizontal drive frequency:	28.63636 MHz (8 fsc)
Programmable gain:	3 positions (L, M and H) selected from 0, 3, 6, 9, 12, 15, 18, 21, 24, 30, 36 dB
Shutter speed	Preset: 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000 Variable: 1/60.3 to 1/250.0
Lens mount:	Bayonet type
Sensitivity:	f/11 (2000 lux)
Minimum subject brightness:	0.5 lux (at f/1.4 + 36 dB)
Video S/N ratio:	62 dB (standard)
Horizontal resolution:	Over 800 lines (at center) (CAM OUT connector)
Registration:	Less than 0.05% (total area, lens distortion excluded)
Geometric distortion:	Negligible (lens distortion excluded)

Specifications

[VTR UNIT]

Video system

Recording format:	DV format
Sampling frequency	Y: 13.5 MHz PB/PR: 3.375 MHz
Quantizing:	8 bits

Audio system

Recording format:	Digital PCM stereo recording 16 bits (48 kHz/2 channels) 12 bits (32 kHz/2 channels)
Frequency response:	20 Hz to 20 kHz (at 48 kHz)

Tape transport system

Tape format:	DV standard cassettes
Tape speed:	18.812 mm/sec.
Maximum recording time:	270 min.

[CONNECTOR SECTION]

Input

AUDIO IN CH1/CH2 (XLR x 2, 3 pins):	LINE/MIC/MIC+48V switching system MIC: -40, -50, -60 dBu menu-selectable LINE: -6, 0, +4 dBu menu-selectable MIC+48V: Phantom +48V supported
MIC IN (XLR x 2, 3 pins):	MIC/MIC+48V switching system MIC: -40, -50, -60 dBu menu-selectable MIC+48V: Phantom +48V supported (menu-selectable)
GEN LOCK IN (BNC):	1.0 V _{P-P} , 75 Ω

Output

CAMERA OUT (BNC):	1.0 V _{P-P} , 75 Ω
VIDEO OUT (BNC):	1.0 V _{P-P} , 75 Ω
S-VIDEO OUT (S connector)	Y signal: 1.0 V _{P-P} , 75 Ω C signal: 0.286 V _{P-P} , 75 Ω
AUDIO OUT CH1/CH2 (RCA x 2):	-6 dBu, low impedance, unbalanced
PHONE OUT (stereo mini jack):	-30 to -80 dBu

Other

DV 1394 (4 pins):	IEEE1394 input/output
DC IN (XLR, 4 pins, male):	DC 12V (DC 11 to 17V)
DC OUT (4 pins):	DC 12V (DC 11 to 17V), max. 1A (DC 7V, max. 1A output also available)

LENS (multi-connector, 12 pins)

EVF (multi-connector, 20 pins)

Specifications

[VIEWFINDER]

(Optional accessory AJ-VF10P)

CRT:	1.5-inch high-resolution monochrome CRT
Video system:	525i/59.94 Hz
External controls	Controls: BRIGHT, CONTRAST, PEAKING Switches: TALLY HIGH/OFF/LOW, ZEBRA ON/ OFF

[ACCESSORIES]

- Battery holder (already installed on unit) for Anton Bauer products
- Microphone
- Tripod plate

[RELATED EQUIPMENT]

Power supply-related products

Battery packs:	AU-BP402, AJ-BP490
Battery chargers:	AJ-B425 (for charging the AU-BP402 battery pack) AJ-B450 (for charging the AU-BP402 and the AU-BP490 battery pack)
Battery case:	AU-M402H
AC adapter:	AJ-B75

Audio products

Microphone kit:	AJ-MC700P
Microphone holder:	AJ-MH700P
Wireless mic receiver:	WX-RJ700
Camera attachment:	WX-ZJ770

Maintenance products

Cleaning tape:	AY-DVCL
Soft carrying case:	AJ-SC900
Rain cover:	SHAN-RC700
Shoulder strap:	VFC2588 (service part)

Panasonic

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9:00 a.m. – 5:00 p.m. (EST) (800) 334-4881/24 Hr. Fax (800) 334-4880

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SECTION 2

SERVICE INFORMATION

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1. Service Menu

1-1. Method of Displaying Service Menu Main Page

Under the selfing WHITE BAL SW to "PRST" side and OUT PUT SW to "BAR" side, by pressing MENU SW while turning ON AWB SW the following menu is displayed on the view finder.

The method of changing the setting, selecting the items, and switching the menu page is same as that for User menu.

1-1-1. MAIN menu screen

® NEXT **** SERVICE ****
FLARE/GAMMA..
WHAITE SEADING..
DEFECT COMPENSATION
VTR SERVICE 1/2..
VTR SERVICE 2/2..
INITIALIZE..
EV R DATA..
ERROR LOG..
DIF STTUS..
SOFT REVISION : VO.0001a

Each item in the MAIN menu is the index to open the SUB menu of the item.

1-1-2. SUB menu screen [FLARE/GAMMA]

® ▲< FLARE/GAMMA >
R FLARE :100
G FLARE :100
B FLARE :100
R GAMMA :+00
B GAMMA :+00
R GAIN :+00
B GAIN :+00
WITE CLIP :105%

Menu contents [FLARE/GAMMA]

Item	Variable range	Initial value	Content
R FLARE	-128~+127	+00	Varying Rch flare
G FLARE	-128~+127	+00	Varying Gch flare
B FLARE	-128~+127	+00	Varying Bch flare
R GAMMA	-15~+15	+00	Varying Rch gamma
B GAMMA	-15~+15	+00	Varying Bch gamma
R GAIN	-30~+30	+00	Varying Rch gain
G GAIN	-30~+30	+00	Varying Bch gain

1-1-3. SUB menu [WHITE SHADING]

® ▲< WHITE SHADING >
WHITE SHADING:READY

Menu contents [WHITE SHADING]

Item	Content
WHITE SHADING	Starting AUTO WHITE SHADING

1-1-4. SUB menu [VTR SERVICE 1/2]

® ▲< VTR SERVICE 1/2 >
CONCEAL :ON
INEER ECC :ON
OUTER ECC :ON
VITERVI :ON
BER ADJ :ON
BER SPEED :SLOW
BER RESULT :2.7 3.4
AUTO EQ :ON
AUTO ADJ :OFF

Menu contents [VTR SERVICE 1/2]

Item	Variable range	Initial value	Content
CONCEAL	ON/OFF	ON	Concealment
INEER ECC	ON/OFF	ON	Inner error correction
OUTER ECC	ON/OFF	ON	Outer error correction
VITERVI	ON/OFF	ON	Viterbi detection/decoding
BER ADJ	ON/OFF	OFF	Error rate detection
BER SPEED	SLOW :60 flames FAST :10 flames	SLOW	Error rate detection mode
BER RESULT	Lch/Rch	-----	Switching error rate display
AUTO EQ	ON/OFF	ON	AUTO EQ
AUTO ADJ	ON/OFF	OFF	Automatic adjustment of equalizer

1-1-5. SUB menu [VTR SERVICE 2/2]

® ▲ < VTR SERVICE 2/2 >	
T TORQUE	:0
S TORQUE	:0
PG SHIFT	:READY
HSW_A_RIZE	:1564
HSW_A_FALL	:1564
RP GAIN	:-40
RP LIN	:OFF
T/S PHOTO	:T0.0V/S0.0V

Menu contents [VTR SERVICE 2/2]

Item	Variable range	Initial value	Content
T TORQUE	+ 000	-----	T-side reel torque adjustment
S TORQUE	+ 000	-----	S-side reel torque adjustment
PG SHIFT	READY/ ACTIVE/ OK	-----	PGMM adjustment
HSW_A_RIZE	0~4096	1565	Display of PGMM adjustment Result
HSW_A_FALL	0~4096	1565	Display of PGMM adjustment Result
PR GAIN	-128~ +128	0	ATF gain adjustment
PR LIN	OFF/ON	OFF	ATF linearity
T/S PHOTO	-128~ +128	0.0V~ 3.3V	Terminal photo-level display

1-1-6. SUB menu [INITIALIZE]

® ▲ < INITIALIZE >	
DRUM RUN RESET	:READY
THREADING RESET	:READY
SYSTEM FULL INIT	:READY

Menu contents [INITIALIZE]

Item	Content
DRUM RUN RESET	Initializing DRUM RUN of hour meter
THREADING RESET	Initializing THREADING of hour meter
SYSTEM FULL INIT	Initializing all system data

1-1-7. SUB menu [EVR DATA]

® ▲ < EVR DATA >	
(01)XX	(02)XX
(03)XX	(04)XX
(05)XX	(06)XX
(07)XX	(08)XX
(09)XX	(0A)XX
(0B)XX	(0C)XX
(0D)XX	(0E)XX
(0F)XX	(10)XX
(11)XX	(12)XX
(13)XX	(14)XX
(15)XX	(16)XX
(17)XX	(18)XX
(19)XX	(1A)XX
(1B)XX	(1C)XX
(1D)XX	(1E)XX
(1F)XX	(20)XX
(21)XX	(22)XX
(23)XX	(24)XX
D/A ADDRESS	:01
D/A DATA	:XX

Menu contents [EVR DATA]

Item	Content
D/A ADDRESS	Table of EVR adjustment values
D/A DATA	Table of EVR adjustment values

1-1-8. SUB menu [ERROR LOG]

® ▲ < ERROR LOG >	
FILE No.	:1
LOG ALL CLEAR	:0
ERR CODE/SEQ	:E-00 00
DATE	:2001.01.01
TIME	:12:34:56
OPE TIME	:000000Hr
TAPE TOTAL	:200min
TAPE REMAIN	:100min
BATTERY	:13.5V
OBJ/MODE	000012:34:50
	000012:34:52
	000012:34:56
	000012:34:55

Menu contents [ERROR LOG]

Item	Variable range	Content
FILE No.	1~5/OFF	File No.
LOG ALL CLAER	ON/OFF	ON: Deleting LOG DATA
ERR CODE/SEQ	E-00 00	Error code, Sequence No.
DATE	2001.01.01	YY. MM. DD
TIME	12:34:56	Time
OPE TIME	000010Hr	Operating time
TAPE TOTAL	200min	Total length of tape
TAPE REMAIN	100min	Remaining amount of tape
BATTERY	1: 1-F: 7-F	
OBJ/MODE	000012:34:50	Double figures: OBJECT Double figures: MODE Double figures: Time of occurrence

1-1-9. SUB menu [DIF STATUS]

® ▲ < DIF STATUS >	
NODE CNT	:00
MY ID	:00
ROOT ID	:00
IRM ID	:00
IN CH	:00
OUT CH	:00
STATUS	.*****
DIF	.*****
N/P	.*****
VIDEO	.*****
AUDIO	.*****
NODE UNI ID	.*****

Menu contents [DIF STATUS]

Item	Variable range	Content
NODE CNT	1~63	Number of connections of local path
MY ID	1~63	MY PHY ID
ROOT ID	1~63	ROOT PHY ID
IRM ID	1~63	Isochronous Resource Manager PHY ID
IN CH	0~63	Current input CH
OUT CH	0~63	Current input CH
STATUS	INPUT OK	Receiving packets normally
	NO PACKET	No packets existing
	INPUT NG	Receiving packets with Problems
	OUTPUT OK	Transmitting packets normally
	OUTPUT NG	Transmission disabled in Transmitting status
	DIF STOP	DIF STOP status
DIF	STOP	DIF STOP status
	ERR1	Unclear format CIP header
	ERR2	Mismatching between CIP header and AP-ID
N/P	NTSC	NTSC
	PAL	PAL
	STOP	DIF STOP status
	ERR	Mismatched 50/60 of CIP-H, VS, or AS
VIDEO	OK	Recordable format
	STOP	DIF STOP status
	NG	Format unrecordable of VS and VSC
	ERR	Unclear or mismatched VS or VSC
AUDIO	OK	Recordable format
	UNLOCK	Receiving data LF = 1
	STOP	DIF STOP data
	ERROR	Unclear or mismatched AS or ASC
	NG	Format unrecordable of AS or ASC
NODE UNIQUE ID	HEX 8	MY NODE UNIQUE ID

2. Method of Checking Error Rate

The error rate with this unit can be checked in the following steps:

- (1) Set the following items in SUB menu [VTR SERVICE 1/2] as follows:

Setting	
CONCEAL	OFF
INNER ECC	OFF
OUTER ECC	OFF
BAR ADJ	ON

- (2) Measure BAR RESULT in SUB menu [VTR SERVICE 2/2] under the following operating conditions:

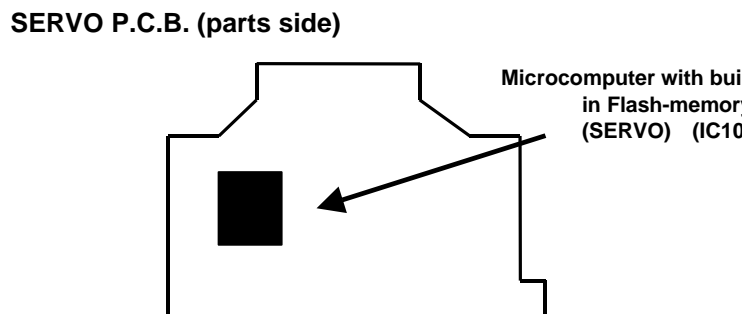
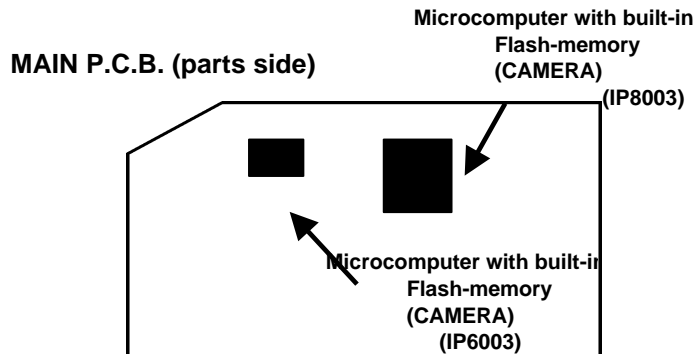
Measuring condition	Error rate spec.	
	L ch	R ch
DV color bar alignment tape playback	3.5 min.	3.5 min.
Camera color bar self recording/playback		

(Caution) If the measured BAR RESULT is out of specification (3.5 or less), the error rate display blinks.

3. Method of Displaying Software Version and Hour Meter

Method of Updating Software

MAIN P.C.B. and SERVO P.C.B. (VRR SYSCON, SERVO, and CAMERA) have the microcomputers with built-in flash memory. To update the microcomputer software version, flash memory version up software for each is used.



3-1. Preparation for the updating

3-1-1. Parts needed for writing the flash memories

Flash memory version up software for the updating

System control microcomputer → "VFK1248E"

Servo control microcomputer → "VFK1503"

Camera control microcomputer →

Personal computer compliant to WINDOWS 95/98

RS-232C cable (9-pin cross cable)

3-1-2. Installing the flash memory version up software for the updating

Make a copy of the following files under an arbitrary directory of the microcomputer compliant to WINDOWS 95/98: (After the files have been executed, "INI" files are created under the same directory as the program files. The "INI" files can be either left as they are or deleted.)

Program files

System control microcomputer ® "VSI2312E.EXE"

Servo control microcomputer ® "fw103u.exe"

(four kinds of software) "VSIXXXX.obf"

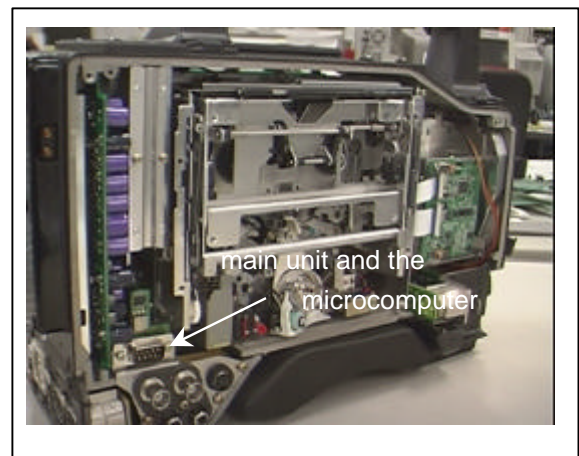
"VSIXXXX.bat"

"VSIXXXX.exe"

Camera control microcomputer ® "FWC2.exe"

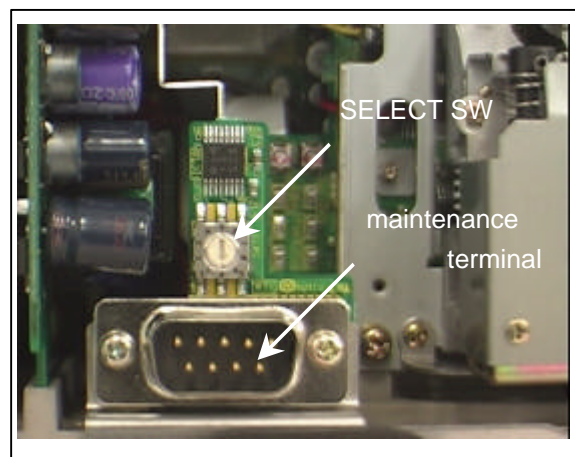
3-1-3. Cable connection

Turn off the power for the main unit, and connect the maintenance terminal on the lateral side of the main unit and the microcomputer with the RS-232C cable (9-pin cross cable).



3-1-4. Setting WRITE SELECT SW

Change the setting of WRITE SELECT SW above the maintenance terminal according to the flash memory to be written.



Number	Name	Functional description
0	NORMAL	Connection OFF position
1	CAMERA WR 1	Writing camera software (1)
2	CAMERA WR 2	Writing camera software (2)
3	SERVO WR	Writing servo software
4	VTR RESERVE	(VTR reserve)
5	VTR WR	VTR system control software
6	SERVO RESERVR	(Servo reserve)
7~9	NC	Not used.

(Caution)

In the normal state (after the writing has been finished and power turned OFF), set the position to "0".

Do not change the setting of the SELECT SW during the normal operation.

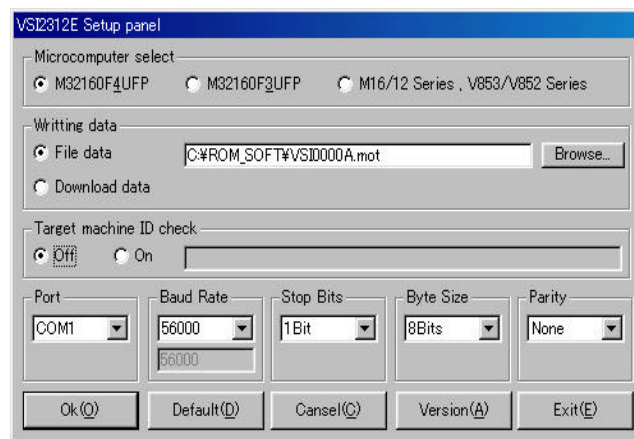
Do not turn off the power or disconnect the cable while writing the software.

Do not change the setting of the SW to other than the position 1 and 2 while writing the software.

Do not change the setting of the SW to other than the specified set position while writing the servo control software.

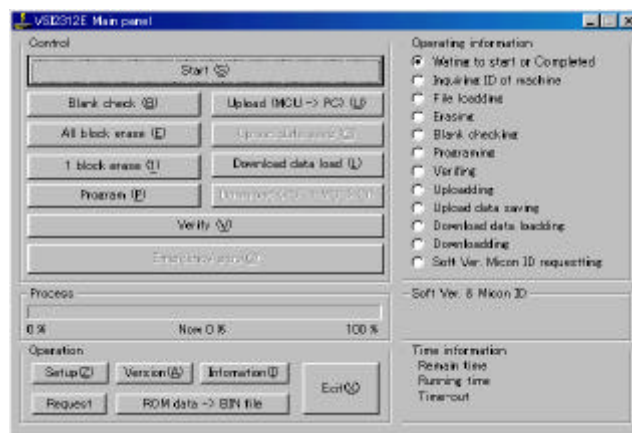
3-2. Procedure of writing VTR system control software

1. Make sure that the power for the main unit is turned OFF.
2. Change the setting of the WRITE SELECT SW to "5".
3. Connect the personal computer and the main unit with the RS-232C cable (9-pin cross cable).
4. Turn ON the power for the main unit.
5. Press EJECT button and make sure that the cassette does not lift up at that time. (If the cassette lifts up, check whether the cable is properly connected and the SW is set to the right position.)
6. Start the flash-memory update software "VS12312E.EXE". (Double-click the program file "VS12312E.EXE" that was copied under the arbitrary directory.)
7. After the program file has started up, Setup Panel window opens.



8. Make the following settings in the "Setup Panel" window:

- Microcomputer Selet → "M32160F4UP"
- Writing data → "File data"
(By using Browse..., select a writing software, MOT file.)
- Port → "232C connection port"
- Baud Rate → "56000"
- Stop Bits → "1Bit"
- Byte Size → "8Bits"
- Parity → "None"



9. Click Start(S) button on the Main Panel window. (If this process is to be stopped, click Exit(X) button. When returning to Setup Panel window, click Setup(Z) button.)

10. After the flash memory has been erased, the new software is written in. During the writing process, the proceeding of the writing can be confirmed in the Process indicator. If the writing does not proceed for any reason, click Emergency stop(E) button to stop the processing, and check the connection and the settings again.

11. When the flash memory has been erased and written in, the Process indicator reaches 100%, and “Waiting to Start or Completed” message in the “Operating information” section is checked.
12. Turn OFF the power for the main unit, disconnect the cable, and return the WRITE SELECT SW to its original position “0”.
13. Confirm that the version of the new software is indicated with DIAG menu.

3-3. Procedure of writing SERVO control software

1. Make sure that the power for the main unit is turned OFF.
 2. Change the setting of the WRITE SELECT SW to “3”.
3. Connect the personal computer and the main unit with the RS-232C cable (9-pin cross cable).
4. Turn ON the power for the main unit.
5. Press EJECT button and make sure that the cassette does not lift up at that time. (If the cassette lifts up, check whether the cable is properly connected and the SW is set to the right position.)
6. Start the flash-memory update software “VSIXXXX.bat”.
(Double-click the program file “VSIXXXX.bat” that was copied under the arbitrary directory.)

7. When the following window appears, type “Y” and click ENTER button. (While the program is being written in, the proceeding is indicated on the personal computer screen.)

```

/=== MN103004 FLASH ROM VERSION UP SOFTWARE ===/

  1 個のファイルをコピーしました。

/=== Initializing ===/
Could not record flash memory exchange record.
Do you continue ? Y/N > Y_
  
```

8. When the following message appears, the writing has been completed.

```

Ex format file analysis ...
start loading

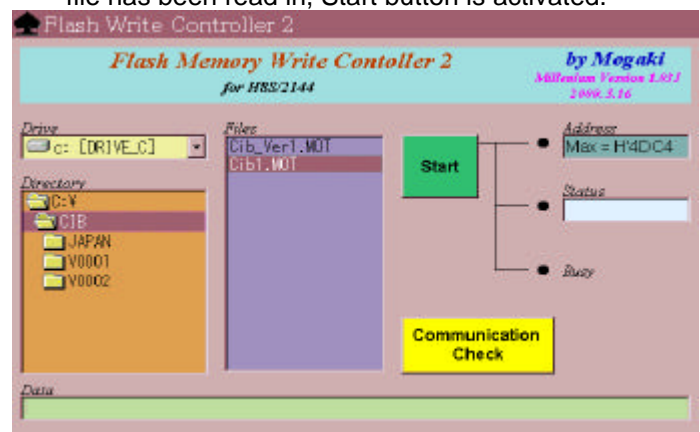
Zero writing before erase .
Erase block .
0x00002000 - 0x00003fff writing
0x00004000 - 0x00005fff writing
0x00006000 - 0x00007fff writing
0x00008000 - 0x00009fff writing
0x0000a000 - 0x0000bfff writing
0x0000c000 - 0x0000dfff writing
0x0000e000 - 0x0000ffff writing
0x00010000 - 0x00011fff writing
0x00012000 - 0x00013fff writing
0x00014000 - 0x00015fff writing
0x00016000 - 0x00017fff writing
0x00018000 - 0x00019fff writing
0x0001a000 - 0x0001bfff writing
0x0001c000 - 0x0001dfff writing

Load finished
fw103> q
  
```

9. Turn OFF the power for the main unit, disconnect the cable, and return the WRITE SELECT SW to its original position “0”.
10. Confirm that the version of the new software is indicated with DIAG menu.

3-4. Procedure of writing Camera control software

1. Make sure that the power for the main unit is turned OFF.
2. Change the setting of the WRITE SELECT SW to “1”.
3. Connect the personal computer and the main unit with the RS-232C cable (9-pin cross cable).
4. Turn ON the power for the main unit.
5. Press EJECT button and make sure that the cassette does not lift up at that time. (If the cassette lifts up, check whether the cable is properly connected and the SW is set to the right position.)
6. Start the flash-memory update software “FWC2.exe”.
7. After the program file has started up, “Flash Write Controller 2” window opens.
8. Select a write software, MOT file, and read it in. After the file has been read in, Start button is activated.



9. Clicking "Communication Check" button changes the color from yellow to green and the remark changes to "Check O.K.". Now, the preparation for writing the software has been completed. (If the color and the remark do not change, check the hardware. Because another communication software may be using the communication port, exit all the other communication software.)
10. After the "Check O.K." remark has appeared, turn the WRITE SELECT SW to "2", and click Start button to start the writing. The remarks change during the writing as follows:
 - Address: Indicates the write address during the writing at green.
 - Status: Indicates the writing status. "Go" means the data reception is possible.
 - Busy: If the data transmission stops for a long time, Busy becomes yellow.
 - Data: Data transmitted in the serial communication during the writing
11. When the writing has completed, "Write O.K." message appears at green in the Status fields, and "Check O.K." button changes to yellow.
12. Turn OFF the power for the main unit, disconnect the cable, and return the WRITE SELECT SW to its original position "0".
13. Confirm that the version of the new software is indicated with DIAG menu.

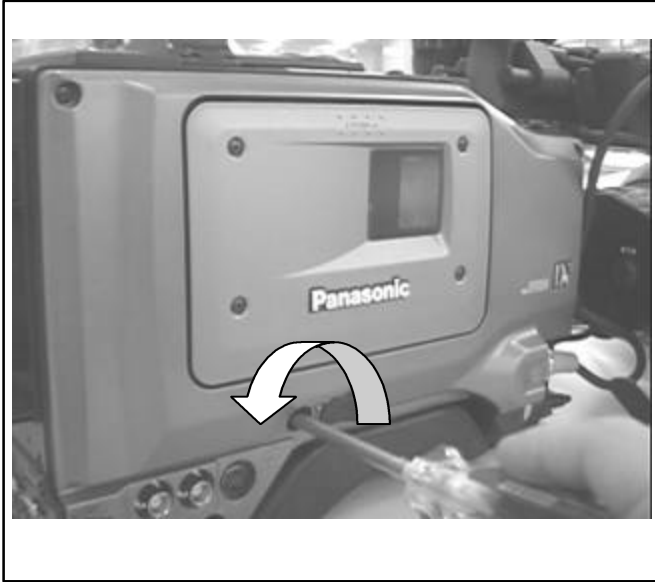
(Cautions)

- 1. Turn off the screen saver of the personal computer.**
- 2. Exit the software in which messages appear at the foremost of the screen (E-mail arrival, and the like).**
- 3. Do not touch the personal computer or the camcorder after starting the writing.**
- 4. Never turn off the power for the personal computer or the camcorder after starting the writing.**
- 5. If any ERROR appears, click the writing software with the mouse to bring it forward without making haste, and click Start button. Never exit the writing software.**

4. Emergency Eject

If you can not take out the cassette even though you press EJECT button, you can take out the cassette by pushing and turning EMERGENCY screw with a screwdriver or the like.

1. Turn OFF the power.
2. Remove the rubber cap and insert a Phillips screwdriver to the cross-shaped recess of the EMERGENCY screw (red) as shown in the figure below:



3. While pushing the EMERGENCY screw with the screwdriver, turn the screw counterclockwise until the cassette is ejected.
 - The screw must be turned about 20 turns before the tape unloading begins.
 - Thescrewmustbeturnedabout90turnsfromthebeginning of the tape unloading to the cassette eject.
4. Take out the cassette.
5. Attach the rubber cap again.

<Caution>

- Do not turn the EMERGENCY screw except in emergency. Do not turn the EMERGENCY screw clockwise. Also, do not turn the screw farther after the cassette has been ejected. Otherwise, the mechanism may be broken down.
- After the cassette has been ejected, the cassette holder can not be locked even if it is pushed to close. Turn on the power to reset the action of the mechanism, and then close the cassette holder.
- Click sounds occur during the time when the EMERGENCY screw is turned. These sounds occur while the reel is driven and they are not abnormal.

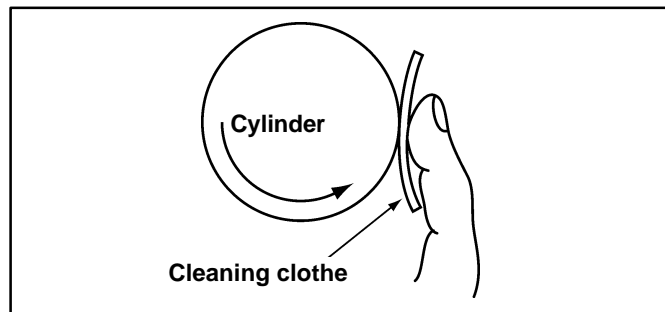
5. Cleaning Method

Cautions: Turn off the power while doing cleaning.

As a cleaning liquid use ethanol (99% or more)
or *EE cleaner made by Olympus Corporation.

5-1. Cleaning video heads

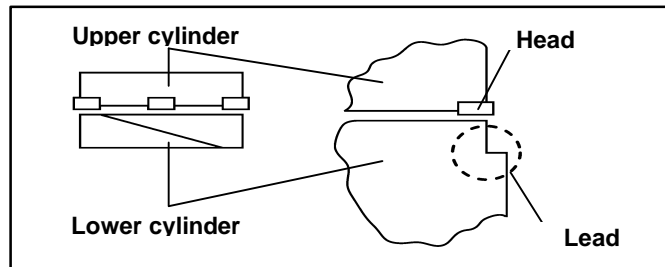
Lightly press a cleaning cloth damped with a cleaning liquid onto the cylinder, and rotate the cylinder counterclockwise. Repeat this several times until no more dirt sticks to the cleaning cloth. Finally, wipe the cylinder with a new dry cleaning cloth. Do not touch the cylinder with bare hands.



5-2. Cleaning drum lead

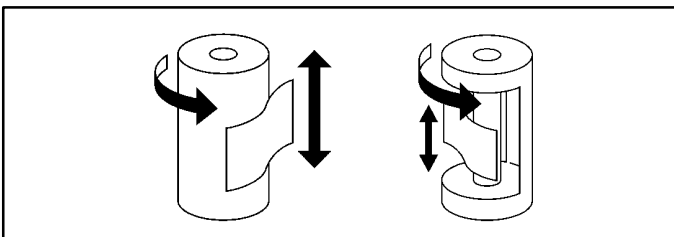
Remove the dust stuck to the drum lead with something like a tooth pick.

Do not hit the video head tips with the tooth pick or the like.



5-3. Cleaning pinch roller and capstan

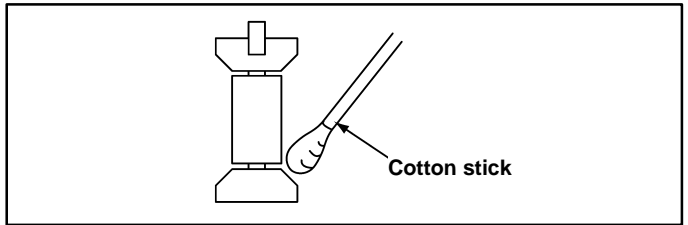
Wipe the pinch roller and capstan with a cloth damped with a cleaning liquid.



5-4. Cleaning posts

Wind a dry cleaning cloth round a thin stick and wipe the posts with the stick. As far as the fixed posts are concerned, at first

wipe them with a cleaning cloth damped with a cleaning liquid, and then wipe with a dry cleaning cloth.



* EE cleaner made by Olympus Chemitech Corporation

Delivery agent: camera mass sales stores and electrical equipment mass retailers

6. AUTO OFF LIST

Code	Auto-Off condition
04	Failure of the pinch-roller solenoid or reel brake solenoid drive circuit has been detected.
08	Failure of the cleaning solenoid drive circuit has been detected.
0B	Where the radius of the tape winding is the minimum, the reel is rotating at the speed of more than 150 times normal playback speed.
0B	When the tape is running in the reel drive mode, the tension sensor voltage continues to be less than 0.3 V or more than 4.7 V for more than 5 seconds.
0B	The take-up reel has rotated more than one turn in the direction opposite to the tape running.
0C	When the capstan has driven the tape by 3 cm, the number of FG counts of the take-up reel is less than the specified value (before detecting the radius of the tape winding).
0C	In \pm one time playback speed, when the amount of tape transport either on the take-up reel or supply reel has reached 3 cm, the difference in the amount of tape transport between the two reels is more than 2 cm (after detecting the radius of the tape winding). When the tape is running, FG output of the take-up reel is not counted for 5 seconds (irrelevant to tape radius detection).
0D	Where the radius of the tape winding is the minimum, the reel rotates at the speed of more than 150 times normal playback speed for more than 2 seconds.
0D	When the tape is running in the capstan mode, the tension sensor voltage continues to be less than 0.3 V for 5 seconds.
0D	While the capstan motor is rotating, the FG output is not detected for more than 5 seconds.
0E	While the cylinder motor is rotating, the FG output is not detected for more than one second. The PG output is not detected for more than 5 seconds.
0E	While the cylinder is rotating, the period of the PG pulses continues to be less than 3 msec for 2 seconds.
0F	Tape loading does not finish within 10 seconds.
0F	Tape loading error: if tape loading is locked after the half loading, the loading is retried three times and the loading is still locked at the fourth retry.
0F	Tape unloading does not finish within 10 seconds.
0F	From the start of tape loading to the half loading, the tension sensor voltage continues to be more than 1.5 V for 40 msec. When the tape is running in FF/REW after the white tape has been detected at the half loading, the output of the take-up reel FG counts more than five times the output from the white tape length.
0F	The tape is not wound up during unloading.
0F	The tape start or tape end processing does not finish even after 10 seconds.